



BAV Circular

Heft 2 - 2021

Ephemeriden

Unterlagen für die Planung der Veränderlichenbeobachtungen, Informationen zu allen BAV-Programmen und Empfehlungen zur Beobachtung

Julianisches Datum 2021

	Jan	Feb	Mrz	Apl	Mai	Jun	Jul	Aug	Spt	Okt	Nov	Dez
2450 000 +	9215	9246	9274	9305	9335	9366	9396	9426	9458	9488	9519	9549

jeweils für den Nullten des Monats um 12 Uhr Weltzeit

Umwandlung von Julianischen Tagesbruchteilen in MEZ

JD	.00d	.10d	.20d	.30d	.40d	.50d	.60d	.70d	.80d	.90d
.00d	13 00	15 24	17 48	20 12	22 36	01 00	03 24	05 48	08 12	10 36
.01	13 14	15 38	18 02	20 26	22 50	01 14	03 38	06 02	08 26	10 50
.02	13 29	15 53	18 17	20 41	23 05	01 29	03 53	06 17	08 41	11 05
.03	13 43	16 07	18 31	20 55	23 19	01 43	04 07	06 31	08 55	11 19
.04	13 58	16 22	18 46	21 10	23 34	01 58	04 22	06 46	09 10	11 34
.05	14 12	16 36	19 00	21 24	23 48	02 12	04 36	07 00	09 24	11 48
.06	14 26	16 50	19 14	21 38	00 02	02 26	04 50	07 14	09 38	12 02
.07	14 41	17 05	19 29	21 53	00 17	02 41	05 05	07 29	09 53	12 17
.08	14 55	17 19	19 43	22 07	00 31	02 55	05 19	07 43	10 07	12 31
.09	15 10	17 34	19 58	22 22	00 46	03 10	05 34	07 58	10 22	12 46

Alle Vorhersagen (Ephemeriden) in Heft 2 sind in MEZ angegeben.

Während der Sommerzeit muss daher bei den Ephemeriden eine Stunde hinzugerechnet werden, um zur dazugehörigen Uhrzeit zu gelangen.

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	Bedeckungsveränderliche "Standardprogramm 2010"	S10
	Bedeckungsveränderliche "Langperiodische 2010"	L10
	Bedeckungsveränderliche "Erwünschte Beobachtungen"	
	Selten beobachtete Sterne	E10S
	Die Elemente sind unbekannt oder fraglich	E10U
	Der Stern hat eine exzentrische Bahn mit Apsidendrehung	E10X
	Das (B-R)-Diagramm zeigt sehr viel Dynamik	E10D
	RR-Lyrae-Sterne Standardprogramm	RR
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74	Ephemeriden für das BAV-Programm Mirasterne	

Veränderungen gegenüber dem Vorjahr

keine

Erläuterung der Ephemeriden-Tabelle

Ephemeriden für Bedeckungsveränderliche und RR-Lyrae-Sterne (ab Seite 4)

Die Tabelle ist nach Monaten gegliedert. In den Zeilen sind jeweils die Veränderlichen, in den Spalten die Tage des Monats dargestellt. Für Bedeckungsveränderliche werden die Zeitpunkte der Minima und für RR-Lyrae-Sterne die Zeitpunkte der Maxima angegeben.

Nach dem Sternnamen wird der Kürzel für das BAV-Beobachtungsprogramm angegeben. Es folgt die Spalte "P" mit einer Beobachtungspriorität. Vorhersagen werden angegeben, wenn die Minima bzw. Maxima nach Sonnenuntergang bzw. vor Sonnenaufgang eintreten und der Veränderliche dann eine Höhe von mindestens 20 Grad über dem Horizont hat. Die Vorhersagen wurden für einen mittleren Ort in Deutschland (10 Grad östliche Länge, 50 Grad nördliche Breite) berechnet .

In den letzten Zeilen jeder Seite wird für jeden Tag das Julianische Datum angegeben.

Priorität 1 = Der Stern wurde noch nie innerhalb der BAV beobachtet
 2 = Der Stern wurde seit über 2000 Tagen (rund 6 Jahre) nicht mehr innerhalb der BAV beobachtet
 3 = Der Stern wurde seit über 1000 Tagen (rund 3 Jahre) nicht mehr innerhalb der BAV beobachtet

Tagesbruchteile

In der Spalte des Tages sind Julianische Tagesbruchteile (TB) eingetragen, die zum Teil (bei einem Tagesbruchteil größer 46) für den folgenden bürgerlichen Tag gelten. Damit aber alle Erscheinungen einer Nacht in einer Spalte stehen, wird so getan, als ob um Mitternacht kein bürgerlicher Datumswechsel stattfindet. Eine Tabelle zur Umrechnung der Tagesbruchteile in MEZ befindet sich auf der Titelseite.

Impressum

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Erläuterung der Ephemeriden-Tabelle

zu Ephemeriden für Bedeckungsveränderliche und RR-Lyrae-Sterne (ab Seite 4)

Zusätzliche Kennzeichen

- +** Sind aufgrund der Kürze der Periode mehrere Erscheinungen pro Nacht sichtbar, wurde hinter die Vorhersage ein " + " gesetzt.
- s** Ein Nebenminimum wird durch "s" hinter dem Tagesbruchteil markiert.
- \ /** Bei Bedeckungsveränderlichen vom Typ Algol, bei denen die Bedeckung länger als 36 Stunden dauert, werden neben dem Zeitpunkt des Minimums weitere Angaben gemacht:
Der Beginn des Abstiegs wird zeitlich angegeben, gekennzeichnet durch ein "\" hinter dem Tagesbruchteil. Während des weiteren Abstiegs wird das Zeichen "/" weiterhin angegeben.
Beim Anstieg wird entsprechend mit dem Kennzeichen "/" verfahren.
- \ /** Bei Beta-Lyrae-Sternen mit einer Periode länger als 16 Tage, wird nach der Hälfte des Abstiegs zusätzlich während des gesamten weiteren Abstiegs das Zeichen "/" angegeben.
Beim Anstieg wird entsprechend mit dem Kennzeichen "/" verfahren.

Beispiel an Hand eines Ausschnitt aus der Tabelle vom Januar

Beispiele

Lösungen

2010	Jan	1	2	3	4	5	15	16	17	18	19	Spalte	Angabe	Datum	MEZ	Bemerkungen	
Ari	X RR		30		25		32		27		23						
Ari	RS L10				20							4	20	4.1.	17:48	Minimum von RS Ari	
Ari	AL E10				34												
Aur	TZ 90	20+	38+	55	34+	51	30+	48	26+	44	22+	17	26+	17.1.	19:14	Maximum von TZ Aur, weitere sind in der Nacht sichtbar (+)	
Aur	CQ L10					6					00s						
Aur	IY E10				50				47			3	50	3.1.	01:00	Minimum von IY Aur in der Nacht vom 3. / 4.1.	
Boo	TW 90	57	63	70	76		57+	47	53	60	45+						
Boo	AC E10	65	53+	59+	64s	52+	75	45+	51+	57+		4	64s	4.1.	04:22	Nebenminimum (s) von AC Boo in der Nacht vom 4. / 5.1.	
Cam	SS E10	28		70s			23+			16s	38+						
Cnc	RZ L10						72\	\	34	97/							Die Bedeckung dauert 77,9 Stunden (D = 77,9h).
												15	72\	15.1.	06:17	Der Abstieg beginnt am 15.1. um 6:17,	
												16	\				am 16.1. dauert der Abstieg an,
												17	34	17.1.	21:10	das Minimum ist am 17.1. um 21:10,	
												18	97/	18.1.	10:50	der Anstieg endet am 18.1. um 10:50.	

Ephemeriden für Mirasterne (auf den letzten beiden Seiten)

Kopfzeilen Unter der Abkürzung des Monatsnamens geben die Zahlen " 123 " die Dekaden des Monats an.

M Ein Maximum wird vorhergesagt

m Ein Minimum wird vorhergesagt

2021 Jan	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
And SW RR 3			37	26			35	24			33	22		43	31	20		41	29			39	27		37		26			35	24			
And SY L10 1																		67\	71	76\														
And TW S10																			24s	30		37s												
And XX 90		24		41			30		47	19		36			25		42			31		48	20		37			26		43				
And CD L10 2																																		
And OV 90		26	20			49	43	37	31	26	20				43	37	31	26	20				43	37	31	26							37	
Aqr SW RR		21																																
Aqr SX 90 3								24							20																			
Aqr CD E10S 3		36					20					4																						
Aqr HH 90			26														20																	
Aqr LL L10 2																					10													
Aql V0341											19																							
Aql V0889	9s										19					21s										33s								
Aql V1353 E10S																77s																	75s	
Aql V1426 E10S							25+	43s	2+	19+	37+	54	13+	31+	48s	7+	24+	42	1+	18+	36+	53s	12+	29+	47	6+	23+	41+	58s	17+	34+		52	
Ari X RR 2		29		25		20	50		46		41		36		32		27		22				43		39			34		29		25		
Ari RS L10 2										25									6								86							
Ari AL E10S								30															29											
Aur TZ 90		39+	57	35+	53	31+	48	27+	44	23+	40	58	36+	54	32+	49	28+	45	24+	41	59	37	54	33+	50	29+	46	24+	42	59	38	55		
Aur CQ L10 2	69							0s					31					62s				93						25s						
Aur IY E10S			38											56			35											52		32				
Aur V0432			23			32			40			48		56			64						27s		35s			43s					51s	
Aur epsil L10 2																																		
Aur zeta L10 1																																		
Boo RS RR		76		65	78	54	67		56	69		58	71		59	73		61	74	50	63	76	52	65		54	67		56	69		57		
Boo TW 90		71	77				50	56	63	69	75				48	54	61	67	74				46	53	59	66	72				45	51		
Boo UU 90			72	63	55		75	66	57				77	69	60	51			71	63	54		74	65	57	48		77	68	59		51		
Boo UY 90				79	74		69		65			60		55					76	71		66		62			57		52					
Boo AC E10D		58+	63s	52+	57+	63	51+	57+	63s	51+	56+	62	50+	56+	62s	50+	56+	61	49+	55+	43+	49+	55+	43+	49+	54+	42+	48+	54+	42+	48+		53+	
Boo CM 90				77	60				64			69		73			56	78		60			65		70			52	74		57			
Boo CQ 90 3		72	70	67			64	77	62	74		59	72	69			66	64	76	61		74	58	71	55	68	53	66		63	76		60	
Boo CS 90		74				61	72				59	70			58		68					56	66	77		54	64	75			52		62	
Cam SS E10S 3			61s			2		43s	84				25s	66				8s	49			90s		31			72s			14		55s		
Cam SV S10		36+	25+	43+	32+	21+	40+	29+	47+	36+	25+	44+	33+	22+	40+	29+	48+	37+	26+	45+	34+	23+	41+	30+	49s	38+	27+	45+	34+	23+	42+		31+	
Cam AK E10S		26	37s	49	60s	71						28s	39	51s	62	73s						30	41s	53	64s	75					21		32s	
Cam AN L10 3		26	37s	49	60s	71						28s	39	51s	62	73s						30	41s	53	64s	75					21		32s	
Cam AT E10S		25s	65s	34	74	44s		53	23s	62s	32	72	42s	51	21s		60s	30	70	40s		49		58s	28	68	38s	77s	47		56s	26		
Cnc S L10		68										17																			14			
Cnc RU L10 2							49										66										83							
JD 592 ..		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46		

2021 Jan	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Cnc RW	90	36	46	55	64	74		38	48	57	66	76	31	40	49	59	68	78	32	42	51	61	70		34	44	53	63	72	27	36	46	
Cnc RZ	L10 2	71\	\	33	95/								53\	\	15s	77/								35\	97	/	60/						
Cnc TT	90	69	39	51	64			33	46	58	71		40	53	65		34	47	60	29		42	54	67		36	49	61	30	43	56	69	
Cnc TU	E10S 3	88							44							0											13						
Cnc TW	L10 2																							17\	23	29/							
Cnc UU	L10 2																	\	\													47	
Cnc ZZ	L10 2								32\	34	36/																						
Cnc AQ	90	63	72		37	47	56	66	76		40	50	60	69		34	44	53	63	73		37	47	57	66		31	41	50	60	70		
CVn W	90	63	73		49		59	70				56	66	77			53	63	73		49	60	70			46	56	67	77		42		
CVn Z	90	76	42	73	69		65	61				57	53	49			46	76	42	73		38	69	65		61	57	53					
CVn RS	S10 3				61s												60						40					60s					
CVn RZ	90	72		56	69			53	66			50	64	77			47	61	74	45		58	72		55	69		52	66				
CMa R	S10 3		45s				42					53s			51				49s				46				44s						41
CMi AM	E10S	40	42	44	46	48	49	51	53	55	57	59	61	63	65																		
Cas RX	L10 2																					\	\		95		/	/					
Cas RZ	S10 3	69			27		47	66				25	45	64				23	42	62			20	40	59						37	57	
Cas SX	L10 2												24\	\	7		90/																
Cas TV	S10		38	19				63				44	26								51		32				76	57				38	
Cas TW	S10		28	71			56		42			44	28	71			56		42				28	70			56		42				
Cas TX	E10S	49s		42s			35s		27s		74	20s	66			59					52		45				37		30	76s			
Cas AQ	L10 2		84\	89	95/			70\	76s	81/			56\	62		67/						48s	53/				28\	34	39/				
Cas BM	L10 3																																
Cas DN	E10S	40s	56	71s				33s	49	64s					27s		42	58s	73				20s	35	51s	66				29	44s		
Cas GG	E10S							45					21															25					
Cas GU	E10U		57																						23		32						41
Cas IL	E10S 3						25		71							61							51										42
Cas IT	E10X						25		71		42s				32s		61		22s			51											42
Cas OX	E10X				31+					29+		78+		27+		75+		24+				73+		22+			71+						
Cas PV	E10X	50s	25s	31+		75s	50s	29+				78+	75s	27+		75+		24+				73+	26s	22+			71+	51s				26s	
Cas V0368		61						29s			52	74s					20s		42			65s						32				55s	
Cas V0375		37s	58	32s	79s		53	26s	74s	47	21s	68s	42		63s	37	58s	32		53s		26	74	47s	21	68	42s	63	37s			58	
Cas V0381		37s	48s	58	32+	79s	53	26s	74s	47+	21s	68+	42		63s	37	45s	58s	32		53s	26	74	47+	21	68	42s	63	37s	42s		58	
Cas V0459		48	23					32s	46			21			78s		45						43	24s					42				
Cep RZ	90	43+	36+	28+	21+	45+	37+	30+	22+	46+	38+	31+	24+	47+	40+	32+	25+	48	41+	34+	26+	50	42+	35+	28+	51	44+	36+	29+	21+	45+	37+	
Cep V000W		19+	30+	27+	25+	22+	19+	31+	28+	26+	23+	20+	32+	29+	27+	24+	21+	33+	30+	28+	25+	22+	20+	31+	28+	26+	23+	21+	32+	29+	27+	24+	
Cep XX	S10	73					40		74				41		75							76					44		77				
Cep XY	E10S		63			40							72			50			27								60		37				
Cep ZZ	S10						27		42			56		70								27		41		55		69					
Cep AI	E10S 3	24		35s	46				69												25s		37					70s					
JD 592	..	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	

2021 Jan	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Cep CW E10X						69+					42+						61+				34+									53+		25+	
Cep EI L10				50							72s		94				16s					38				60s			82				
Cep EX L10													83														27						
Cep NN E10S							21s	24	26s	29	32s	35	38s	41	44s	47	50s	53	56s	59	61s	64	67s	70	73s	76							
Cet RR RR		31	41				29	39				26	37				24	35										30					
Cet RV 90		24			36		23			34		21			33		20				32				31				29				
Cet TU E10S 2					8					47			87				26							65			4				43		
Cet TV L10 2				54+									65+										75+								85+		
Cet XY E10S 2							35s						30								25s				42						37s		
Com S 90		72		48	65		58	76		52		69		45	62		56	73		49			66	42	59	77		53	70	46	63		
Com ST 90 3			70		69			69				68		67			47	67		47	66			46	66	46	65	45	65		44		
CrB U S10						55																								72			
CrB RV 90 3		79	78	77	77	76	76	75	75	74	74	73	73	72	72	71	71	70	70	69	68		68	67	67	66	66	65	65	64	64	63	63
Crit W 90 2		63		69				63		69						63							58		64				58				
Cyg Y S10		63		69				63		69						63							58		64				58				
Cyg UY RR			20					24					29				22+						26				75					23	
Cyg XZ RR				38	32+		25+	19+	59				32	25+	65	59					32	25+	65	59	52								
Cyg BO E10S		31	19s					33	21s							36	24s				75s				26s			77s			29s		
Cyg BR E10S			26		26s		26		26s	26			25s	25			25s	25		25s			25		25s		25	25s	24				
Cyg DM RR			26		20			30		24						27				21				25	77							23	
Cyg V0367								\	\	66	/	/					\	\	96s	/	/					\	\	25	/	/			
Cyg V0463		78s							19																72s	78							
Cyg V0477		78s							19				74s													72s	78	78s					
Cyg V0541									6+																			39+					
Cyg V0548				71				33	23s				74	64s			35	25s						77	67s	57		28s					
Cyg V0788																																	
Cyg V0891										23																							
Cyg V0909																																	
Cyg V1061 E10S																																	
Del DX 90 3			24	19								22																					
Del NN L10 1																																	
Dra RW RR		53		30+	19+	52		29+	62	50		27+	60	49		26+	59	47		25+	57		46		23+	56	45		22+	55	43	76	65
Dra SU RR		53	19	51		49		47	79	45	77	43	75	41	73	39	72	38	70	36	68		34	66	32	64	30	62	28	60	26	58	24
Dra SW RR		45	59	73	30	44		58	72	29	43	56	70	27	41	55	69	26	40	54	68	25	39	53	67	24	38	52	66	22	36	50	64
Dra TZ E10D					74s	61s		77	21+				24+					73s	60s		76		20+		23+			69	56	72s	59s		
Dra V000Z		65	29+	26+	22+	50	47+	43+	71	68	64	60	24+	21+	49	45+	42+	70	66	63	59		23+	20+	48	44+	41+	37+	65	62	58	22+	51
Dra WW S10					40											66														55			
Dra XZ RR 3		64	59	54	50	45	40	36	31+	26+	22+	64	60	55	50	46	41	36	32	27+	22+		65	60	56	51	46	42	37	32	27+	23+	66
Dra AI S10		68						67																								45	65
JD 592 ..		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	

2021 Jan	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Dra BF L10		68					45s	67					67				66s	66				26s	66							45	65			
Dra BK 90		29	48	66	26	44	62	22	40	58	77	36	54	73	32	50	69	28	47	65	24	43	61	20	39	57	75	35	53	71	31	49		
Dra BU E10S			21s									78s	74	70s	65	61s	57	52s	48	44s	40	35s												
Dra DD 90		19	76	54	33		68	46	25		60						38	74	52	30						58	36		71	50	28	63	42	77
Dra GV L10													67																					
Equ S S10			23																															
Eri SV 90 2			31					31					31					30					30					30						
Gem RR 90		32+	51	30+	49	29+	48	28+	47	26+	45	25+	44	24+	43	22+	41	21+	40	20+	39	58	37	57	36	55	35	54	33	53	32	51		
Gem RY L10 2			32				97s					62					27s								57s							22		
Gem SV E10S 1		46				46			47				48				48					49								50				
Gem SZ 90		65	65	65	66	66	66	66	67	67	67	67	67	68	68	68	68	68	69	69	69											21	22	
Gem WW E10S		41s	65s	27	50		36s	60s	22	46		31s	55s	41	64		26s	50s		36	60	21s	45s		31	55		40s		26	50			
Gem YY S10		26+	48	29+	52s	33+	55	37	59s	40s	22+	44	25+	47s	29+	51	32+	54s	36s	58	39	21+	43s	24+	47	28+	50s	32s	54	35	57s	39s		
Gem OW L10 2																																		
Her TW RR 3		73		73		73		73		73		72		72		72		72		72		71		71		71		71		71		71		70
Her TX S10						21												57	60s	63	66s	69	71s	74	77s									
Her UX E10D					77s							74						71s							68									
Her V000X					73		65			74		65			75		66			76		67			77		68	59					69	
Her V000Z		65		73					69			77	65		74		62			70	58		78	66			74	62			71		59	
Her AK S10		79		69s	74		69	75s				70s	75		70		76s		65	71s	76	66s	71	76s			66	72s	77		67s	72		
Her AR 90		71	65	59	53			76	70	64		58	52				75	69	63	57	51			74	68		62	56	50					
Her AW L10 3								93										73										53						
Her DI L10				12s				93						67s				73							22s		53							
Her GU E10U								62		79s																65								
Her LV L10 2								62		79s				75s												65								
Hya SZ 90 2				50	57	65				48		56	63					47	54	61				45	52		60						43	
Hya WZ 90 2					55	62						54	61						53	60				52				59						
Hya AI L10 2			60+																										47+					
Hya ET 90					43		49		55	60					40			46		52		57					37		43		48			
Lac RW L10					43		49+		55	60					40			46+		52		57					37	57s	43		48			
Lac SW S10		22+	34	30	26+	23+	19+	31s	27s	24+	20+	32	28	25	21+	33s	29s	25s	22+	34	30		26	23	35s	31s	27s	23s	36	32	28	24	21	
Lac UW E10S		46					75						4					33						62				91						
Lac CO E10X				73+		27+			35+			44+											23+	77+		32+			40+					
Lac CZ 90		35+	21		37	24		40	26	42		29			31+			34+	20		36	23	39	25				28+			30+			
Lac V0345							63+								12+							61+									10+			
Lac V0364							63+							12+				34s				61+								10+				
Leo RR RR		66	57	47	38	74	64	54	45	35	71	62	52	43	78	69	59	50	40	76	66	57	47	38	74	64	55	45	36	71	62	52		
Leo SS RR			58		71			59		72			60		48	73		61		49	74				62		50	75		63		51		
Leo ST RR		75	71	66	62	57	53	49				79	74	70	66	61	57	52	48	44				78	74	69	65	61	56	52	47	43		
JD 592 ..		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46		

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Leo WY E10S						44					42					41					39					36					37		
Leo AG E10S		42					51s					59					68s		38					47s					56				
Leo AM S10		55+	46+	56+	48+	57+	49+	58+	50+	60+	51+	61+	52+	44+	53+	45+	55+	46+	56+	47+	57+	48+	40+	50+	41+	51+	42+	52+	43+	53+	45+	54+	
Lyn TY E10S 3												46												46									
Lyn CD E10S 3		78s						33s		61							43s		70					25		53s							
Lyr RR RR				73	30				70	27			67	23			20+					74				71			67				
Lyr RZ 90											68	19+	21+	75	77																	64	
Lyr UZ S10		23									75s	69										20s						77s	71	66s			
Lyr CN 90			76						69	75							66		74					68		74			67			73	
Lyr EZ RR						68	20+	78								69	71	76								64	69	74					
Lyr IO 90			75						79			68				72				75				64			68				72		
Lyr beta S10 3												65						12s						59								6s	
Mon UX E10S 2					31			26s				21		16s			12			7s			2		97s			93				88s	
Mon V000V			69				72s		74				77s		79				82s				84		87s			89			92s		
Mon AQ E10S 2						51s										42									33s			42s					
Mon AR L10 1											17\	87\										78\										38\	
Mon AT E10S 2																																32	
Mon AV E10S 2				31s				78				26s		73					21s				68			15s		63					
Mon EZ E10U 2		41+	35+	48s	42+	36+	49s	43	37+	50s	44	38+	32+	45	39+	33+	46	40s	34+	47	41s	35+	29+	42s	36+	30+	43s	37	31+	44s	38	32+	
Mon IL E10S 2		15					18				21				23								29				31				34		
Mon V0448		32	44	56			35s	47s	59s			39	51				30s	42s	54s				33	45	57	25s	37s	49s		28	40		
Mon V0530		42s	47s	52s	31+	36+	41	46	51	30+	35+	40s	45s	50s	29+	34+	39	44	50	28+	33+											37s	
Mon V0536																					41+							55+					
Mon V0634			42				53																33		44		56						
Oph U ST																71						74											
Oph RZ L10 1										45\	\			69								/	93\										
Oph ST 90							79					75													71				76				
Ori Z E10S 2					18																												20
Ori BM E10S 3		51						98																					39				
Ori CP E10S 2	22						54										86																
Ori DN L10 2													93														90						
Ori FO L10 2																		87															
Ori FT E10X													29s		44s		87		59s														
Ori GG E10X						50s							29		44													39s					
Ori V0536												22				38																	
Ori V1016 L10																										95							
Ori V1031 E10S 2			44s													36																	
Peg U S10		31s	25	37	31s	25	37	31s	24	37	31s	24	37	30s	24	37	30s	24				30s	24				30s	24		23	29s	23	29s
Peg V000V												29	27	25	23	20																	
JD 592 ..		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	

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Peg V000W												29	27+	25	23	20																		
Peg AV RR				31		27		22					29		25		20				45s		27		22						25			
Peg AW L10	2			51					82s						14											76					7s			
Peg BH 90		19						32		24						29						22				27								
Peg BK E10S								31										29										27						
Peg CG 90				30	24						31	24						25								26								
Peg DF L10	3													47														17						
Peg DH RR		23	25	27								20	22	24	26									20	23									
Peg GH E10S	3					20															25s													
Per RW L10	2			42													61												81					
Per RY E10S	3											52						38								24								
Per AG E10X												52						38								24								
Per AR 90		49	34	19+	47	32	60	45	30	58	43	28	56	41	26	54	39	24	51	37	22+		49	34	20+	47	32	60	45	30	58	43	28	
Per AY L10	3					4											82												59					
Per IQ E10X						53+		27+					50+	24+						47+		22+					45+							
Per KN E10U		28	58s	45s	32s	62	48	35	21	51s	38s	25s	55	41	28	58s	45s	31s	48	35		21	51s	38s	24s	54	41	28		44s	31s			
Per LX L10				10				12s				14			16s					18				20s			22						23s	
Per beta S10	3			35			22				52s			39s			25s							42		29								
Psc RU 90	3	44	22	39		35		30		25	42	20	37		33		28		23	40			35		30		26		21	38		33		
Psc RY 90	2				24	30								25	31									25									26	
Psc SS 90	3	37	24	39	25	40	27	42	28	43	30	45	31		33		34	20	35	22	37	23	38	25	40	26		28	29			31		
Ser V000Y						74					74					74									74									
Ser AN 90	3			69	73	77									65	69	74	78							61		66	70	75					
Ser BH 90	3			70			74	61		78	65			69			73	60		77	64				68	55		73	60		77	64		
Ser EG L10	3			92			41s		89			38s		87			35s		84			33s		81			30s		79				27s	
Ser LX K10	3	72	67	62+	73	68	63+	74	69	64	59+	70	65	60+	71	66	61+	72	67	63+	58+	68	64	59+	70	65	60+	55+	66	61+	56+		67	
Sex T 90		71	69	66	64	61	58	56	53	51	48	46	43	40+	70	68	65	62	60	57	55		52	49	47	44	42	39	37+	66	64	61		59
Tau RW S10	3								52			29												36										
Tau CD S10	3		61		33s					48		20s					35						51s		23				38s					
Tau EN E10S		23s	47s		32	56		42s	66s	28	52		38s	62s	24	48			33s	57s		43		29s	53s		39		25s	49s		34		58
Tri X S10	3																					47	44	41	39	36	33	30	27	24	22			
Tri RU E10S	2				41						31s					21				48					38s				29					
UMa W S10		22+	22+	22+	22+	22+	22+	22+	22+	22+	23+	23+	23+	23+	23+	23+	23+	23+	23+	23+	23+		24+	24+	24+	24+	24+	24+	24+	24+	24+	24+	24+	
UMa RW RR		54	48	41		75	69	62	56	50	43	37	77	71	65	58	52	45	39	33	73		67	60	54	47	41	35	75	69	62	56	50	
UMa RW E10S												57												56s										
UMa TU RR		62	74		41	53	64	76		43	55	66	78		45	56	68			47	58		70		37	49	60	72		39	51	62	74	
UMa TX S10																							34		41			47					53	
UMi W S10		48					59		29			69		39											60		30			70			40	
Vir ST 90	2	65		70		76		63		69		74				62		67		73			78	60		66		71		76	59		64	
JD 592 ..		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45		46	

2021 Jan			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Vir	AG	E10D		62	58s	55	51s	47	76	72s	69	65s	61	58s	54	51s	47	76	72s	68	65s	61	58s	54	50s	47	43+	72s	68	65s	61	57s	54	50s
Vir	AH	S10		53+	55+	57+	58+	60	62s	64	66s	68	49+	51+	53+	55+	57+	59s	61	63s	64	46+	48+	50+	52+	53+	55+	57	59s	61	42+	44+	46+	48+
Vir	AT	90	2	73	79							62	67	72	78						56	61	66	71	77						55	60	65	70
Vir	AV	90		68		65		62		59		56		53							76		73		70		67		64		61	58		
Vir	CG	E10S			74	68						76s	69s	63s					77	71	64					72s	66s	59s					74	
Vul	Z	S10	3			78																												
Vul	RR	E10S	3			19					24																							
Vul	BN	90	3	76																		77			74			72		69				
JD	592	..		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
2021 Feb			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
And	SW	RR	3			33	22		31				29				27																	
And	SY	L10	1																				57\	62	67\									
And	TW	S10																						29										
And	XX	90		32					38			27					33						39		28				34					
And	CD	L10	2																						64\	\	70	/	77\					
And	OV	90		31	26						37	31	26						37	31	26						31	26						
Aqr	CD	E10S	3																															
Aqr	LL	L10	2																															
Aql	V0889					45s											57s										69s							
Aql	V1353	E10S						70															72s		68				63s					
Aql	V1426	E10S		11+	28+	46s	5+	22+	40+	57	16+	33+	51s	10+	27+	45	3+	21+	38+	56s	15+	32+	50	9+	26+	44s	2+	20+	37+	55	14+			
Aql	V1430	E10S															70s								69s									
Ari	X	RR	2							41		36		32		27											34	29		25				
Ari	RS	L10	2				66									47																		
Ari	AL	E10S							28															27										
Aur	TZ	90		34	51	29+	47	25+	43	60	39	56	34	52	30	48	26+	44	61	39	57	35	53	31	49	27	44	62	40	58	36			
Aur	CQ	L10	2		56						87s					18						49s				80								
Aur	IY	E10S										49				28										46			25					
Aur	V0432					59s					22			30		38				46			54						25s					
Aur	epsil	L10	2																															
Aur	zeta	L10	1																															
Boo	RS	RR		71	46	59	73	48	61	74	50	63		52	65		54	67	42	55	69	44	57	71	46	59	72	48	61		50			
Boo	TW	90		58	64	71				43	50	56	63	69	75		42		48	55	61	67	74			40	46	53	59	66	72			
Boo	UU	90				71	62	53			73	65	56	47		67	59	50			70	61		53	44	72	64	55	47					
Boo	UY	90			73	68			64		59	54			49	45	75				70	65		61		56	51		46					
Boo	AC	E10D		42+	47+	53+	41+	47+	53+	41+	46+	52+	40+	46+	52+	40+	46+	51+	39+	45+	51+	39+	45+	50+	39+	44+	50+	38+	44+	50+	38+			
JD	592	..		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77

2021 Feb	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Boo CM 90			61			66	49	70		53	75	58					62	45	67		49	71		54			58								
Boo CQ 90 3		73	58	70	55	68	52	65	49	62	75	60	72	57	70	54	67	51	64	49	62	46+	59	72	56	69	54	66	51						
Boo CS 90		73			50	60	71		48	58	69		46	56			67		44	55		65		42	53	63									
Cam SS E10S 3			96			37s	78			19s		61			2s		43		84s			25		67s			8								
Cam SV S10		49	38+	27+	46+	35+	24+	42+	31+	50s	39+	28+	47s	35+	24+	43+	32+	51	40+	29+	47	36+	25+	44+	33+	51s	40+	29+	48s						
Cam AK E10S		43	55s	66							23s	34	45s	57	68s						25	36s	48	59s	70										
Cam AN L10 3		43	55s	66							23s	34	45s	57	68s						25	36s	48	59s	70										
Cam AT E10S		66	35s	75s	45		54s	24	64	33s	73s	43	52s	62			31s	71s	41		50s		60	29s	69s	39		48s							
Cnc S L10									62												11							59							
Cnc RU L10 2							1												18									35							
Cnc RW 90		55	65	74	29	38	48	57	67		31	40	50	59	69	23	33	42	52	61		25	35	44	54	63		27	37						
Cnc RZ L10 2			17\	79s	/		42/						99\	\	62	/		24/					81\	\		44s	/	6/							
Cnc TT 90			37	50	63		32	45	57			26	39	52			33	46	59	28		41	53		35	48									
Cnc TU E10S 3							25					81							37			93						49							
Cnc TW L10 2											/																								
Cnc UU L10 2																																			
Cnc ZZ L10 2																																		51\	
Cnc AQ 90		34	44	54	63		28	38	47	57	67		31	41	51	60		25	35	44	54	64		28	38	48	57								
CVn W 90		53	63	73			49	60	70			46	56	67			43	53	63	74		39	49	60	70		36	46	56						
CVn Z 90		50	46	76	42		73	38	69	34	65	30	61	57			53	50	46			42	73	38	69		34	65	30						
CVn RS S10 3			40s						59					39								59s						39s							
CVn RZ 90			50	63			47	60	74	44		57	71	41	55		68	38	52	65		35	49	62			46	60							
CMa R S10 3					39s				36					34s			32			29s					40										
CMi AM E10S															24		26	28	30	32	34	36	38	40	42	44	45	47	49						
Cas RX L10 2							\	\				12s		/	/									\	\			28							
Cas RZ S10 3		77			35		55	74				33	52	72			30	50	69				28	47	67										
Cas SX L10 2																			81\	\	64	/	47/												
Cas TV S10									45			26					70		51	32															
Cas TW S10			27	70			56		42			27	70				56		41			27	70				56								
Cas TX E10S		23	69s			62s			54s			47s			40s					32s		25s	71			64		57							
Cas AQ L10 2		14\	20s	25/			0\	6	11/			86\	92s	97/					73\	78	83/			59\	64s	69/									
Cas BM L10 3																																			
Cas DN E10S		60	75s				22	37s	53	69s					31s	46	62s					24s	40	55s	71										
Cas GG E10S					76				52			28																32							
Cas GU E10U				51					69																										25
Cas IL E10S 3							32												67						58										
Cas IT E10X							32												67		39s			29s	58										
Cas OX E10X		69+					67+					65+					63+					61+						58+							
Cas PV E10X		69+	76s		51s		67+	26s				65+		26s			63+					61+						58+	27s						
JD 592 ..		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77			

2021 Feb	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Cas V0368							23		45s			68						36s		58												26s		
Cas V0375		31s	52	26s	73s		47	68s	42			63s	36		57s	31		52s	26	73	47s		68	41s		62	36s		57					
Cas V0381		31s	52	26s	73s		47+	68s	42			63s	36	38s	57s	31		52s	26	73	47+		68	41s		62	36s	35s	57					
Cas V0459		70s					40			15s				38					61s	37												35+		
Cep RZ	90	30+	23+	46	39+	31+	24+	47	40+	33+	25+	49	41+	34+	27+	50	43+	35+	28+	51	44	37+	29+	53	45	38+	30+	54	47					
Cep V000W		22+	33+	30+	28+	25+	23+	34+	31+	29+	26+	24+	35+	32+	30+	27+	25+	36+	33+	31+	28+	25+	37+	34+	32+	29+	26+	38+	35+					
Cep XX	S10			45							46							47														48		
Cep XY	E10S							69			47			24								57			34									
Cep ZZ	S10						26		40		54		68									25		39		54						68		
Cep AI	E10S 3								27		38s				61s		72															28s		
Cep CW	E10X				71+			44+							63+			36+														55+		
Cep EI	L10		4s				26				48s			70				92s						13								35s		
Cep EX	L10							70															13											
Cep NN	E10S											23	26s	28	31s	34	37s	40	43s	46	49s	52	55s	58	61s	63	66s	69	72s					
Cet RR	RR	28					25					23																						
Cet RV	90		28					27					25					24																
Cet TU	E10S 2		82					21				60					99					39				78								
Cet TV	L10 2							96+										6+														16+		
Cet XY	E10S 2							33							28s																			
Com S	90		39	57	74		50	67	43	61		37	54	71			47	64		40	58		34	51	68		44	62						
Com ST	90 3	64	44	64			43	63	43	63		42	62	42			62	41	61			41	61	40	60			40	59					
CrB U	S10				62							53						43																
CrB RV	90 3	62	62	61	61	60	59	59	58	58	57	57	56	56	55	55	54	54	53	53	52	52	51	50	50	49	49	48	48					
Crt W	90 2							59			59			54																				48
Cyg Y	S10			59				53		59				54																			48	
Cyg UY	RR				72								69					74					66										71	
Cyg XZ	RR		32	25+	65	59	52			25+		65	59	52				25+	65	59	52				26+	66	59	52	46					
Cyg BO	E10S									70								73				24												
Cyg BR	E10S	24s	24		24s		24			57s		57	57s				57	57s		57			56s		56		56s		56					
Cyg DM	RR		75								73							70						74				68						
Cyg V0367					\	\	55s	/	/				\	\	85		/	/				\	\	\	15s	/	/							
Cyg V0463					66s	72																66	72s											
Cyg V0477					66s	72																66+	72s											
Cyg V0541								73+																										
Cyg V0548		70s	60			31s					72s	62	53s		24						65	55s			26									
Cyg V0788							65\	61	56/																									
Cyg V0891										72																								
Cyg V0909		72s							74						75s																			
Cyg V1061	E10S		31		66							70																						
JD 592	..	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77		

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Del NN L10	1															12																		
Dra RW RR		53	42	75	63	52	41	73	62	51	39	72	61	49	38	71	59	48	36	69	58	46	35	68	57	45	34	67	55					
Dra SU RR		57	23	55		53		51		49		47		45		43		42		40	72	38	70	36	68	34	66	32	64					
Dra SW RR		21	35	49	63		34	48	62	76	33	47	61	75	31	45	59	73	30	44	58	72	29	43	57	71	28	42	56					
Dra TZ E10D			75	62			65s		68	55		71s	58s		74		61		64s	51s		67	54		70s	57s								
Dra V000Z		47	43+	39+	36+	64	60	57	53	49	46	42+	38+	35+	63	59	56	52	48	44	41+	37+	33+	30+	58	54	51	47	43					
Dra WW S10											44										70				33									
Dra XZ RR 3	61	56	52	47	42		38	33	28+	23+	66	62	57	52	48	43	38	33	29	24+	67	62	58	53	48	44	39	34	29					
Dra AI S10											64										64				43	63								
Dra BF L10				47s							64										64				43	63								
Dra BK 90		68	27	45	64	23	41	60		37	56	74	33	52	70	29	48	66	25	44	62		40	58		36	54	73	32					
Dra BU E10S				75s	71	67s	62	58s	54	49s	45	41s	37	32s													72s	68	64s					
Dra DD 90		55	34		69	47	26		61	39		74	53	31		66	45	23			58	37	72	50	29		64	42						
Dra GV L10											52																							
Eri SV 90 2	29						29					29					28					28												
Gem RR 90	31	50	29	49	28		47	27	46	25+	44	24+	43	23+	42	61	40	60	39	58	38	57	36	56	35	54	34	53	32					
Gem RY L10 2											87s					17s					82			47s				12						
Gem SV E10S 1		51					51			52					52						53			54										
Gem SZ 90		22	22	22	23	23	23	23	23	24	24	24	24	24	25	25	25	25	26	26	26	26	26	26	27	27	27	27	27	28	28	28		
Gem WW E10S		35s	59s		45		31s	54s		40		26s	50s		35		45s		30	54		40s		25	49		35s							
Gem YY S10		61	42	24+	46s	27s	49	31	53s	34s	57	38	60s	42s	23+	45	27	49s	30s	52	34	56s	37s	59	41		44s	26s	48					
Gem OW L10 2																																		
Her TW RR 3		70		70			70		70	69		69		69		69	69	69	69	68		68		68		68	68	68	68					
Her TX S10																					49s	52	55s	58	61s	64	67s	70	73s					
Her UX E10D		65s		75s					62			72									69s						66							
Her V000X		60			70		61			71		62			72		63	54			73	64	55				65	56						
Her V000Z				67	55		75	63		72		60			68	56					64	52		72	60	48	69	57						
Her AK S10		77s	62s	67	72s		62	68s	73	63s		68	73s	58s	63	68s	74	58	63s	69	74s	59s	64	69s		59	64s	70	54					
Her AR 90		73	67	61	55	49	43			72	66	60	54	48	42						71	65	59	53	47	41	70	64	58	52				
Her AW L10 3																13						93												
Her DI L10					33+										13	32s						93				87s								
Her GU E10U		68													53s	71											56s		73					
Her LV L10 2		68													53s	71					62s						56s		73					
Hya SZ 90 2	51	58						42	49	57						40	55						39	46	53									
Hya WZ 90 2	51	58						42	50	57						41	49	56					40	48	55									
Hya AI L10 2					76+										5+								34+											
Hya ET 90		54					34		40	45					51						31		36		42	48								28
Lac RW L10		54					34+		40	45					51						31+		36		42	48						67s	28	
Lac SW S10		33s	29s	25s		34	30	26	22		31s	27+	23s		28		24				29s	25+			26	70s					27s			
JD 592 ..		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77		

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Lac UW E10S		20					49					78					7					36				65									
Lac CO E10X							65+		74+			28+		37+								62+			70+	25+									
Lac CZ 90		33+				36	22		24+			27+		30+			32					64		67											
Lac V0345												8+										58+					7+								
Lac V0364							59+					8+		74s								58+					7+								
Leo RR RR	43	33	69	59	50		40	31	67	57	47	38	28+	64	55	45	36	26+	62	52	43	33	24+	59	50	40	31	67	57						
Leo SS RR	64		52				65	53	41			66	54	42			67	55	43			68	56	44											
Leo ST RR			73	69	64		60	55	51	47	42	38		72	68		64	59	55	50	46	42	37		72	67	63	59							
Leo WY E10S						35				34						32						31			29										
Leo AG E10S		65s	34						43s							52					61s	31					39s								
Leo AM S10	46+	37+	47+	38+	48+		40+	49+	41+	51+	42+	52+	43+	35+	44+	36+	46+	37+	47+	38+	48+	39+	49+	41+	32+	42+	33+	43+	34+						
Lyn TY E10S 3							45														45														
Lyn CD E10S 3	35		63s							45		73s					28s		55								38s	65							
Lyr RR RR		64					61	74			58	71				68								62				58	72						
Lyr RZ 90	66	68	71	73	75																58	60	62	64	67	69	71	73							
Lyr UZ S10						67		72		60		66		72			62										65	70							
Lyr CN 90						62	67	72						60	65		70	75							58	63	68	73							
Lyr IO 90		61	76				65			69				57	73		61					65		54	69			58							
Lyr beta S10 3							53					00s								47						94s									
Mon UX E10S 2		83					78s		73			69s		64					59s			54		50s			45								
Mon V000V		94				97s		99				2s		5					7s			10		12s			15								
Mon AQ E10S 2		51s					33					42		24s							33s				42s										
Mon AR L10 1	23	8/							98/			83s	68/									59/	44	29/											
Mon AT E10S 2		34	37				40	43	46			49																							
Mon AV E10S 2	10s		57					5s				52		99s						47		94s			42			89s							
Mon EZ E10U 2	45s	39	33+	27+	40		34s	28+	41	35s	29+	42	36s	30+	24+	37s	31+	25+	37s	32	26+	38s	32	27+	39s	33	27+	40s	34						
Mon IL E10S 2			37					39				42		44						47				50			52								
Mon V0448		52		32s	43s			23	35	47				26s	38s	50s			30	41				33s	45s		36								
Mon V0530		42s	47s	26+	31	36	41	47	25+	30s	36s	41s	46s	25+	30	35	40	45	24+	29s	34s	39s	44s	49s	28	33	38	44	49						
Mon V0634						67s		24	36			47										61						27	38						
Oph U ST										71s						74s												64							
Oph RZ L10 1																												68							
Oph ST 90		71						67				72					67					73	63												
Ori Z E10S 2						40					61					81						1						22							
Ori BM E10S 3			86							33							80							27											
Ori CP E10S 2		14						46					78						11					43				75							
Ori DN L10 2								86																											
Ori FO L10 2				67																				47											
JD 592 ..		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77			

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Ori FT E10X				34s	67		49s															24s	47	39s										
Ori GG E10X				34			49						28s									24		39										
Ori V0536			36																			34												
Ori V1016 L10																																		
Ori V1031 E10S 2		39										31s																						
Peg U S10		23	29s	23			29s	23	29s			29s																						
Peg V000V			25	23																														
Peg V000W			25	23																														
Peg AV RR							23																											
Peg AW L10 2			38				69s					0									32s				63									
Peg BH 90		24																																
Peg BK E10S							25																											
Peg CG 90												75																						
Peg DF L10 3																											56							
Per RW L10 2												1														21								
Per RY E10S 3				54s								40s									27s													
Per AG E10X				54s								40s	24s	26s			29s	27+	35s			38s	41s			44s	46s							
Per AR 90	56	41	26	54	39	24	51	37	22	49	34	47	32				45	30	43	28		56	41	26	54	39		52	37					
Per AY L10 3												37										15												
Per IQ E10X			42+						40+								37+							35+										
Per KN E10U	48	34	51s	37s		24s	41	27			44s	31s	47	34			51s	37s	24s			40	27	44s	30s		47	34						
Per LX L10			25				27s					29					31s				33			35s				37						
Per beta S10 3			46s		32s							49		36										40s			26s							
Psc RU 90 3	28		23			36	31	26					34				29	24						32			27							
Psc SS 90 3		32	33			35	36	23			24	26	27				28	30				31	33											
Sge SY E10S 3								73																	65s									
Ser V000Y		59	73				59	73				59	73				59	73					59	73			58							
Ser AN 90 3				58		62	67	71	75								54	58	63	67	72						50	55						
Ser BH 90 3		68	55	72		59	76	63	50			67	54	72			59		63	50			67	54	71		58	45						
Ser EG L10 3		76		25s			73		22s			71		19s			68		17s				65		14s		63							
Ser LX K10 3	62	57+	68	63	58+	53+	64	59+	54+	65	60	55+	50+	61	56+		51+	62	57+	52+	63	58+	53+	48+	59	54+	49+	60	55+					
Sex T 90	56	53	51	48	46	43	41	38	35	33+	63	60	57	55	52		50	47	44	42	39	37	34	32	29+	59	56	54	51					
Tau RW S10 3			44														28										36							
Tau CD S10 3			53	25s					40														42s										29s	
Tau EN E10S		44s	30	54		40s	26	50			35s		45				31s	55s	41				27s	51s	36							46s		
Tri X S10 3																												36	33					
Tri RU E10S 2				46s					36																								33s	
UMa W S10	25+	25+	25+	25+	25+	25+	25+	25+	25+	25+	25+	25+	26+	26+	26+	26+	26+	26+	26+	26+	26+	26+	26+	27+	27+	27+	27+	27+	27+	27+	27+	27+		
UMa RV RR	43	37	30	71	64	58	52	45	39	32	73	67	60	54	47		41	35	28	69	62	56	49	43	37	30	71	64	58					
JD 592 ..		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77		

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UMa	RW	E10S		55					22s						54s										54											
UMa	TU	RR		41	52	64	76		31	43	54	66		33	45	56	68		35	47	58	70		37	48	60	72	27	39	50	62					
UMa	TX	S10		60			66			72																										
UMi	W	S10				51					61		31		71			41						52					62		32					
Vir	ST	90	2	69		75	57		62		68		73	55	61			66		72	54		59		65		70	52		58						
Vir	AG	E10D		47	43+	71s	68	64s	61	57s	53	50s	46	43+	39+	68	64s	60	57s	53	50s	46	42+	39+	35+	64s	60	56s	53	49s	46					
Vir	AH	S10		50+	52+	54+	56+	57	59s	41+	43+	45+	47+	48+	50+	52+	54+	56s	37+	39+	41+	43+	45+	47+	49+	51+	52+	54	36+	38+	40+					
Vir	AT	90	2	76						54	59	64	69	75					48	53	58	63	68						47	52	57					
Vir	AV	90		55		53		50		47		75		72		69		66		63		60		58		55		52		49						
Vir	CG	E10S		67	61					75s	69s	62s	56s			70		64	57					72s	65s	59s	52s									
Vul	Z	S10	3			69																														
Vul	RR	E10S	3												73									70												
Vul	BN	90	3																70			67			64			61								
Vul	DR	E10X				70+									70+									70+												
Vul	EV	E10S	3																										70							
JD	592	..		47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76		77	
2021 Mrz			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
And	SW	RR	3				29				27																									
And	SY	L10	1								29											30							48\	53	58\					
And	XX	90									29												30											8\		
And	CD	L10	2																																	
And	OV	90					31	26																												67
Aqr	CD	E10S	3																																	
Aqr	LL	L10	2																																	
Aql	V0889									81s															93s											5s
Aql	V1353	E10S							70s					65					61s							68s			63							
Aql	V1426	E10S		31+	49s	7+	25+	42	1+	19+	36+	54s	12+	30+	48	6+	24+	41s	59s	18+	35+	53	11+	29+	46s	5+	23+	40+	58	16+	34+	52s	10+	28+		
Aql	V1430	E10S		68s							67s							66s							65s											
Ari	X	RR	2											32		27																				
Ari	RS	L10	2			7								88																						
Ari	AL	E10S									26																									
Aur	TZ	90		54	32	49	28	45		41	59	37	54	33	50	29	46		42		38	55	34	51	29	47		43	39		34	52			30	
Aur	CQ	L10	2	11s					42					74s						5					36s			67								
Aur	IY	E10S										42														39										
Aur	V0432				33s				41s		49s														36			44								
Aur	epsil	L10	2																																	
JD	592	..		75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99								
JD	593	..																											0	1	2	3	4		5	

2021 Mrz	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
Cas GG E10S															35											63					39					
Cas GU E10U				35									63																							
Cas IL E10S 3				48							38							29											64							
Cas IT E10X				48							38							29	67s										64							
Cas OX E10X				56+					54+					52+				50+						48+					46+							
Cas PV E10X				56+				27s	54+					52s	52+	27s		50+	52s					48+		52s		46+								
Cas V0368		49		71s							39			62s					29				52s								42s					
Cas V0375		31s		52			46		67s	41			62s	36		57s	30			51s			46s		67	41s	62	35s	56	30s		51				
Cas V0381		31s		52			46+		67s	41			62s	36	32s	57s	30			51s			46+		67	41s	62	35s	56	30s		51				
Cas V0459							34	53s							32	99s							30			45s										
Cep RZ 90		39+	32+	55	48	40+	33+	26+	49	42	34+	27+	50	43	36+	28+	52	44	37+	30+	53	46	38+	31+	54	47	40	32+	56	48	41	33+				
Cep V000W		33+	30+	27+	39+	36+	34+	31+	28+	40+	37+	34+	32+	29+	27+	38+	35+	33+	30+	28+	39+	36+	34+	31+	29+	40+	37+	35+	32+	30+	41+	38+				
Cep XX S10				50							51							52							53								54			
Cep XY E10S				66				44											54				31								64					
Cep ZZ S10											39		53		67											38		52		66						
Cep AI E10S 3						62												30						52	63s								30+			
Cep CW E10X		27+							46+									65+											57+							
Cep EI L10				57				79s				1					23s									67s			89							
Cep EX L10								57																		0										
Cep NN E10S																										31s	33	36s	39	42s	45	48s	51	54s	57	60s
Cet TU E10S 2			17				56				95					34																				
Cet TV L10 2									27+									37+																		
Com S 90		38	55	72	31	48	66		42	59		35	52	69	28	45	63		39	56				32	49	67	43	60		36	53					
Com ST 90 3			39	59	39		58		38	58		38	57	37	57			36	56	36				56	35	55		35	55	34	54					
CrB U S10											69					60										50				40						
CrB RV 90 3		47	47	46	46	45	45	44	44	43	42															69	69	68	68	67	67	66	66	65	65	
Crt W 90 2		54					49					43	49						44	50									44					38		
Cyg Y S10		54					49					43	49						44	50									44					38		
Cyg UY RR				63					68										65										62					67		
Cyg XZ RR				72	66	59	52	46				66	59	52	46				66	59	52		46	39		66		59	52	46	39					
Cyg BO E10S					65s							68s							70s										61							
Cyg BR E10S				56s	56		56s	56		56s			55		55s		55		55s		55				55s	55		55s	54		54s					
Cyg DM RR				72			66					70			64						67				61			65		59						
Cyg V0367				\	\		45	/	/					\	\	75s		/	/					\	\	5	/	/								
Cyg V0463												60	66s																		54	60s	66			
Cyg V0477		68s							72s			60	66s																							
Cyg V0541											41+															74+										
Cyg V0548		68	58s	48							70	61s	51									63s	53	44s							66s	56		46s		
Cyg V0788																												50\	46	41/						
JD 592 ..		75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99										
JD 593 ..																												0	1	2	3	4		5		

2021 Mrz	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Cyg V0891			68		59																			65	55								
Cyg V0909					58s							60						61s							62								
Cyg V1061 E10S																	55								59					63			
Del DX 90 3					68								66											64						68	62		
Del NN L10 1																																	
Dra RW RR		44	32	65	54	42	31	64	52	41	30	62	51	40	28	61	50	38		60	48	37	58	47	35	68	57	46	34	67	56		
Dra SU RR		30	62	28	61	27	59		57	55		53	51				49	47		46			44	42		40	38		36	68			
Dra SW RR		70	27	40	54	68		39	53	67		38	52	66	37		51	65		36	49	63	34	48	62		33	47	61		32		
Dra TZ E10D		60	47		63s	50s		66	53	69s	56s		59	46			62s	49s		65	52	69s	55s	42s		58	45		61s	48s			
Dra V000Z		40+	36+	32+	28+	57	53	49	46	42	38+	35+	31+	27+	56	52	48	45	41	37+	34+	30+	58	55	51	47	43	40	36+	32+	61	57	
Dra WW S10					59																			48									
Dra XZ RR 3		25+	68	63	58	54	49	44	39	35	30	68	64	59	54		50	45	40	35	31		69	64	60	55	50	45	41	36	31		
Dra AI S10		42	62					42	61				41	61										40	60		60					39	
Dra BF L10		42	62	50s				42	61				41	61+										40	60+		60					39+	
Dra BK 90		50	69	28	46	65		42	61	38		57	34	53			31	49	67	45		63	41	59		37	55		33	51			
Dra BU E10S		59	55s	51	46s	42	38s	34	29s													69s	65	61s	56	52s	48	43s	39	35s	31		
Dra DD 90			56	34		70	48	26		62	40		54	32			67	46			59	38		51	30		65	43				57	
Dra GV L10			38																								23						
Gem RR 90		52	31	50	30	49	28	48	27	46		45	44	42			41		39			38		37	35		34		33	52	31		
Gem RY L10 2					77s				42					7s									38s					3				68s	
Gem SZ 90		28	28	29	29	29	29	30	30	30	30	31	31	31	31	31	32	32	32	32	33	33	33	33	34	34	34	34	34	35	35	35	35
Gem WW E10S			44		30s			39		49s		35		44s			30				39s				34s			44					
Gem YY S10		29	52s	33s	55	37	59s	40s		44		47s	29s	51	32	54s	36s		39		43s		47		50s	32s	54	35		39s		42	
Gem OW L10 2																																	
Her TW RR 3			67		67		67		67		67		66		66		66		66		66		65	45	65	45	65	45	65	45	65	45	45
Her TX S10					63s			72s				60		69								39s	42	45s	48	51s	54	57s	60	63s	66		
Her UX E10D					63s			72s				60		69								39s	42	45s	48	51s	54	57s	60	63s	66		
Her V000X			65	57				66	57	49			67	58	49									69	60	51			61	52		43	
Her V000Z		65	53		61		49	69	58	46		66	54				62	50		70	58	46	67	55	43		63	51	39		59		
Her AK S10		59s	65	70s	54s	60	65s	71	55	60s	66	71s	55s	61	66s	50s	56	61s	67	51	56s	62	67s	51s	57	62s	46+	52	57s	63	47+	52s	
Her AR 90		46	40		69		63	57	51	45	39		68	62	56		50	44	38	32		67	61	55	49	43	37	31		66	60	54	
Her AW L10 3			73									53																					13
Her DI L10			73					42s				53																					13+
Her GU E10U												59s												45	62s								
Her LV L10 2												59+												45	62s			49s					
Hya SZ 90 2		44	52					35	43	50			34	41		49						32	40						31	38			
Hya WZ 90 2		47	54					38	46				37	45								36	44						35	43			
Hya AI L10 2		63+								92+																			50+				
Hya ET 90			33		39		45						30	36			41										33		38				
JD 592 ..		75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99							
JD 593 ..																											0	1	2	3	4	5	

2021	Mrz	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Lac	RW	L10		33		39		45				4s		30		36		41				41s				68s	64s	33		38		78s		
Lac	SW	S10	71					72s	68s			69				70s	66s					67				68s	64s			65		61		
Lac	UW	E10S					94						23					53					82						11					
Lac	CO	E10X				33+								58+			67+															55+		
Lac	CZ	90				29+			61			63				66		69				58				60		63				65		
Lac	V0345								56+								5+									54+							4+	
Lac	V0364								56+								5+									54+							4+	
Leo	RR	RR	48	38	28	64	55	45	36	26	62	52	43	33		59	50	40	31			57	48	38	29		55	45	36		52	43	33	
Leo	SS	RR		45			58		46		34	59		47		35	61		48			36	62		50		37		51		39			
Leo	ST	RR	54	50	45	41	37	32				67	62	58	54	49	45	40	36			32		62	57	53	49	44	40	35	31			
Leo	WY	E10S	28					27																										
Leo	AG	E10S			48						57s	27					36s											53s						
Leo	AM	S10	44+	36+	45+	37+	28+		38+	29+	39+	31+	40+	32+	42+	33+	43+	34+	44+	35+	45+	37+	46		38+	29+	39+	30+	40+	32+	41+	33+	43s	34+
Lyn	TY	E10S	3			44																											43	
Lyn	CD	E10S	3						47s							30		57s								40								
Lyr	RR	RR			55	69			52	65				62				59				56	69			53	66			49	63			
Lyr	RZ	90												52	54	56	58		61	63	65	67												
Lyr	UZ	S10				70s	65	59s	54																67	61s	56	50s						
Lyr	CN	90			58		64		70			58		63		69	51		57		63		69	51		56		62		68	50			
Lyr	EZ	RR						56	61	66	71							54	59	64	69					47		52	57	62	67			
Lyr	IO	90	73			62				66			54	70			58					62			51	66		55				59		
Lyr	beta	S10	3			41						88s							35						82s						29			
Mon	UX	E10S	2		40s		35			31s			26		21s			16			11s				7		2s		97				92s	
Mon	V000V				17s		20			22s			25		27s			30			32s				35		37s			40				
Mon	AQ	E10S	2					33					42									33s												
Mon	AR	L10	1			19\	89\								80\	65	49\									40\		25s	10\					
Mon	AV	E10S	2			36			84s				31		78s					26				73s		20			68s					
Mon	EZ	E10U	2	28s	41s	35	29s	42s	36	30s	43s	37	31s	38	32s		39	33s		40	34s				35s	29	36s	30		37s	31		38s	
Mon	IL	E10S	2			55			58				60			63						65				68			71					73
Mon	V0448				28s	40s					31	43				34s						38				29s	41s			32				
Mon	V0530			27s	33s	38s	43s	48s	27	32	37	42		31s	36s	41s			30	35	41				30s	35s	40s			34	39			
Mon	V0536					35+																												
Mon	V0634																		30		41					64s								
Oph	U	ST			67					70						58s						61s												
Oph	RZ	L10	1																															
Oph	ST	90		73	64				69	59				64				70	60					65	55			60				66	56	
Ori	Z	E10S	2			42				62				83							3					23					43			
Ori	BM	E10S	3	75						22						69								16					63					
Ori	CP	E10S	2					7					39					71						3					35					
JD	592	..	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99							
JD	593	..																										0	1	2	3	4	5	

2021 Mrz	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
Ori DN L10	2					80												76														73				
Ori EW E10X	3												35+						28+																	
Ori FO L10	2													27																						
Ori FT E10X														27																						
Ori GG E10X																		30s																		
																		30																		
Ori V0536													32																				30			
Ori V1016 L10																																				
Ori V1031 E10S	2		34s																																	
Peg V000V																																				
Peg V000W																																				
Peg AV RR											68							70	66								68	64								
Peg AW L10	2		94s					25											87						18s					49						
Peg CG 90			69						70																65											
Peg DF L10	3													26														96								
Per RW L10	2										41															61										
Per RY E10S	3							42								29																				
Per AG E10X								42								29																				
Per AR 90			49	35		47	32		45	30		43	28		41				39						35		47	33		45	30		43			
Per AY L10	3				92													70													48					
Per IQ E10X			32+								29+																									
Per KN E10U			37s				40	27		43s	30s				33			37s		40					30s		33			36s						
Per LX L10			39s						41					43s				44							48				50s							
Per beta S10	3							43			30																						37			
Psc RU 90	3					29									27																					
Psc SS 90	3						26		28		29																									
Sge SY E10S	3																																			
Ser V000Y			73		58					58						58															58					
Ser AN 90	3	59	64	68	72						47	51	56	60	64	69											43	47	52	56	61	65				
Ser BH 90	3	62	49		66	53		71	57	44		62	49		66	53	40	70	57	44					61	48		65	52	39	56	43		61		
Ser EG L10	3		11s		60				9s	58					6s	55			4s	52						1s	50	98s		47			96s			
Ser LX K10	3	50+	45+	56+	51+	46+	57	52+	47+	58	53+	48+	43+	54+	49+	44+	55	50+	45+	56	51+	46+	41+	52+	47+	42+	53	48+	43+	38+	49+		44+			
Sex T 90		48	46	43	41	38	35	33	30	28	58	55	52	50	47	45	42	39	37	34	32	29					54	51	49	46	43	41	38	36		
Tau CD S10	3					45								32																						
Tau EN E10S			32			42s		28			37s				47	33s			43		29s					38				34						
Tri X S10	3	30	28																																	
Tri RU E10S	2																		31																	
UMa W S10		27+	27+	27+	27+	27+	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+	28+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	29+	30+		
UMa RV RR		52	45	39	32	26	66	60	54	47	41	34	28	68	62	56	49	43	37	30							64	58	51	45	39	32	66	60	53	47
UMa RW E10S										53s																										
JD 592 ..		75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99										
JD 593 ..																											0	1	2	3	4	5				

2021 Mrz	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
UMa TU RR		73	29	41	52	64	31	43	54	66	33	45	56	68	35	46	58	69	37	48	60	39	50	62										
UMa TX S10								29			35	42			48	54			61			67												
UMi W S10				72	43					53			63		33				44			54												
Vir ST 90 2		63	68	51			56	61			67	49	54		60	65	47		53	58	64	46	51	57										
Vir AG E10D		42s	38+	35+	63s	60	56s	53	49s	45	42s	38+	35+	31+	59	56s	52	49s	45	41s	38	34+	31+	59	56s	52	48s	45	41s	38	34s	30+		
Vir AH S10		41+	43+	45+	47+	49+	51+	32+	34+	36+	38+	40+	42+	44+	46+	47+	49+	31+	33+	35+	36+	38+	40+	42+	44+	46+	48	50s	31+	33+	35+	37+		
Vir AT 90 2		62	67				46	51	56		61	66					40	45	50	55	60	39	44	49	54									
Vir AV 90			46	43			40	71	68		66	63	60				57	54			51	48	45			42	39						36	
Vir CG E10S		73	67	60	54	47			68s	61s	55s	49s			69	63	56	50	44						64s	58s	51s	45s					66	
Vul Z S10 3			70					61																										
Vul BN 90 3								71			68	65			62	59					56					53								
Vul DR E10X			71+								71+																							
Vul EV E10S 3														63																				
JD 592 ..		75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99								
JD 593 ..																						0	1	2	3	4							5	
2021 Apl	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
And SY L10 1																																		
And XX 90																		65																
And CD L10 2		15s	/	21/																														
And OV 90																									61									
Aqr SW RR							66																										63	
Aqr SX 90 3													66													63								
Aqr CD E10S 3								12					96					80							63								47	
Aqr LL L10 2																																		
Aql AA RR												65	63								61													
Aql V0341							62														61												59	
Aql V0889							62					17s									61												59	
Aql V1353 E10S		58s					54	66s													56s												64s	47s
Aql V1426 E10S		45	4+	22+	39+	57s	15+	33+	50	9+	27+	44s	3+	20+	38+	55	14+	32+	49s	8+	26+	43	2+	19+	37+	54s	13+	31+	48	7+	24+			
Aql V1430 E10S					63s				56								55				61s				54		60s						53	
Ari RS L10 2																																		
Aur TZ 90		48	44	40			35	49				45	40				36	50			45	41	37										46	
Aur CQ L10 2		98s					29					60s						91							23s								54	
Aur IY E10S							36																											
Aur V0432																																		
Aur epsil L10 2																																		
Aur zeta L10 1																																		
JD 593 ..		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		

2021	Apl	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Boo	RS	RR	57	33	46	59	34	48	61	36	50	63	38	51	65	40	53	42	55		44	57	46	59	34	48	61	36	49	63					
Boo	TW	90	66			32	39	45	51	58	64			37	43	50	56	63					35	42	48	55	61					40			
Boo	UU	90	37	65	56	48		39		59	50		42	33	62	53	44	36		64	56	47	38		58		50	41				61			
Boo	UY	90	66		61		57		52		47		42		38	33	63		58		54		49		44		39		35						
Boo	AC	E10D	45+	33+	39+	44+	33+	38+	44+	32+	38+	44+	32+	37+	43+	49s	37+	43+	48	37+	42+	48s	36+	42+	48	36+	41+	47s	35+	41+	47	35+			
Boo	CM	90	47			52		35	57		39	61		44	66		48		53		36	57	40	62		45						49			
Boo	CQ	90	3	36+	49	62	46	59	43	56	41	54	38+	51	35+	48	33+	45	58	43	56	40	53	37	50	35+	48	60	45	58	42	55	39		
Boo	CS	90	39	50	60			37	48	58				35	46	56			33	44	54	65		42	52	63		40	50	61					
Cam	SS	E10S	3	84			26s	67			8s		49		90s			31		73s			14		55s	96				37s	79				
Cam	SV	S10	50s	39	58	47s	36+	55	43s	32+	51	40s	59s	48	37+	55s	44	33+	52s	41	59	48s	37	56	45s	34+	52	41s	60s	49	38s	56s			
Cam	AK	E10S	44s	56	67s							35s	46	58s								37	49s	60									39s		
Cam	AN	L10	3	44s	56	67s						35s	46	58s								37	49s	60									39s		
Cam	AT	E10S				38s	47		57s		66	36s		45		55s		64	34s		43		52s		62		41		50s				60		
Cnc	S	L10						53										1																	
Cnc	RU	L10	2							4												22											39		
Cnc	RW	90				39	48	58				41	50				33	43	52				35	44				37	46						
Cnc	RZ	L10	2	53/							10\	72s		/	35/							92\	\	55	/	17/							74\		
Cnc	TT	90		41				35	48				43									44				38									
Cnc	TU	E10S	3	86						42						99						55				11							67		
Cnc	TW	L10	2		93\	99	/	5/																											
Cnc	UU	L10	2																																
Cnc	ZZ	L10	2																			70\	72	74/											
Cnc	AQ	90				33	42	52				36	46					39	49				43					36	46						
CVn	W	90	57	67	33	43		53	64		39		50	60			36	46	57				43	53	64		40	50	60						
CVn	Z	90	34	65	61			57	54		50		46		42			38		34	65		61	57		54	50		46						
CVn	RS	S10	3		37							57s					36s						56				36								
CVn	RZ	90	37	51	64		34	48	61			45	58			42	56			39	53		36	50	63		34	47	61						
CMi	AM	E10S													32	34	36	38																	
Cas	RX	L10	2			/								\	\			77s			/	/								\					
Cas	RZ	S10	3	33	53						50					48											43	63							
Cas	SX	L10	2																																
Cas	TV	S10						64											51									57							
Cas	TW	S10						55			40							55			40							54				40			
Cas	TX	E10S						62		54			47			40										64s				57s					
Cas	AQ	L10	2	80s	86/			61\	66	72/			47\	52s	58/					33\	39	44/			19\	25s	30/						5\		
Cas	BM	L10	3				52																						/	/					
Cas	DN	E10S		53s							46s	62					39s	55							48	64s							41		
Cas	GG	E10S									66																								
Cas	GU	E10U											56			65																			
JD	593	..	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		

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Cas	IL	E10S 3			55							45							35															
Cas	IT	E10X			55							45							35									63s				53s		
Cas	OX	E10X			43+				41+									39+		37+						35+								
Cas	PV	E10X			43+				41+		53s							39+		37+						35+	53s						53s	
Cas	V0368		65							33s												45								36		58s		
Cas	V0375				46		67s	41		62s	35		56s		51s			46s		40s			61	35s		56						51		
Cas	V0381				46		67s	41		62s	35		56s		51s			46s		40s			61	35s		56						51		
Cas	V0459		90s									36s								82s												28s		
Cep	RZ	90	57	49	42	35+	58	51	43	36	59	52	45	37	61	53	46	39	62	55	47	40	63	56	49	41	34	57	50	42	35	59		
Cep	V000W		36+	33+	31+	42+	39+	37+	34+	45+	43+	40+	38+	35+	32+	44+	41+	39+	36+	33+	45+	42+	40+	37+	34+	46+	43+	40+	38+	35+	47+	44+		
Cep	XX	S10						56								57							58									59		
Cep	XY	E10S	41											51										61				38						
Cep	ZZ	S10								37			51		66										36			51						
Cep	AI	E10S 3								42		53s			65														44s			55		
Cep	CW	E10X								48+												40+							59+					
Cep	EI	L10		11s				33				55s				77				99s				21				43s						
Cep	EX	L10			44													87														31		
Cep	NN	E10S	63	66s																									35s	38	41s	44		
Cet	TU	E10S 2																																
Cet	TV	L10 2																																
Com	S	90	47	64	40	57		33	50				44	61	37	54				48	65		41	58		34	52			45	62			
Com	ST	90 3	34	54	33	53		33	52	32			52	32	51				51			50			50			49			49			
CrB	U	S10					31																	57							47			
CrB	RV	90 3	64	63	63	62	62	61	61	60	60	59	59	58	58	57	57	56	55	55	54	54	53	53	52	52	51	51	50	50	49	49		
Crt	W	90 2	44					39		45												34					34		40					
Cyg	Y	S10	44					39		45											34						34		40					
Cyg	UY	RR				59					64										61								58					
Cyg	XZ	RR	66	59	52	46	39			66	59	53	46	39	33			59	53	46	39					59	53	46	39			59		
Cyg	BO	E10S			63							66	54s																					
Cyg	BR	E10S	54		54s		54			54s		54		54s		53s				53		53s		53		53s		53s		53s		53		
Cyg	DM	RR				63			57					61		54				64		58				52		62				56		
Cyg	V0367		\	\	35s	/	/					\	\	65	/	/					\	\		94s	/	/					\			
Cyg	V0463															48	54s	60																
Cyg	V0477				53s							58s				48	54s	60	62s															
Cyg	V0541											8+																				42+		
Cyg	V0548								59	49s	39									61	52s	42						64	54s	44	35s			
Cyg	V0788																																	
Cyg	V0891														61		52																	
Cyg	V0909		64s							65												47s						48						
JD	593	..	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	

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Cyg V1061 E10S							67																			44								
Del DX 90 3									66	60							63	58									61	56						
Del NN L10 1																																		
Dra RW RR		44	33	66	54	43	31	64	53	41		63	51	40		61	50	39		60	49	37		59	47	36		57	46	35				
Dra SU RR		34	66	32	65	31	63		61		59		57		55		53		51		50		48		46		44		42		40			
Dra SW RR		46	60		31	45	59			43	57			42	56			41	55			40	54			38	52			37	51			
Dra TZ E10D			64	51	38		54s	41s		57	44		60s	47s		64	50	37		53s	40s		56	43		59s	46s		63	49	36			
Dra V000Z		53	50	46	42	39	35+	63	60	56	52	48	45	41	37	34	62	58	55	51	47	44	40	36		61	57	53	50	46	42			
Dra WW S10			37									63														51								
Dra XZ RR 3			65	60	56	51	46	41	37	32			66	61	56	51	47	42	37	33				61	57	52	47	43	38					
Dra AI S10		59					39	59					38	58				37	57					37	57								36	
Dra BF L10		59					39	59					38	58				35s	37	57				37	57				56s		36			
Dra BK 90			48	66		44	62		40	58		36	54		50			46	65			42	61		38	57		34	53					
Dra BU E10S													66s	62	58s		53	49s	45	40s	36													
Dra DD 90		35		49			62	41				54	33		46			60	38				52				44		58	36				
Dra GV L10																		9																
Equ S S10																									62									
Gem RR 90		51		49		48		47		45		44		43		41		40		38		37		36		34								
Gem RY L10 2						33				98s					63					28s				93					58s					
Gem SZ 90		35	36	36	36	36	36	37	37	37	37	38	38	38	38	38	39	39	39	39	40	40	40	40	41	41	41	41	41	41	42	42		
Gem WW E10S			39					34							39s					34s														
Gem YY S10			46s	49	31			34s		38		42s		45	49s			34		37s			41		44s									
Gem OW L10 2																																		
Her TW RR 3		64	44	64	44	64	44	64	44	64	44	63	43	63	43	63	43	63	43	63	43	62	42	62	42	62	42	62	42	62	42	62	42	
Her TX S10																									35s	38	41s	44	47s	50	53s	56		
Her UX E10D		51s		60s				48				57			45s			54s				64s	42			51			61					
Her V000X				62	53	44			63	54	45		64	55	46		37	65	56	47		38			57	48	39			57	49			
Her V000Z			47	67	56	44		64	52	40		60	48	36	56		44	65	53	41			61	49	37		57	45		53				
Her AK S10		58	63s	47s	53	58s	63	48	53s	58	43+	48s	54	59s	43+	49	54s	59	44+	49s	54	60s	44s	50	55s	39+	45	50s	55	40+	45s			
Her AR 90		48	42	36			65	59	53	47	41	35			64	58	52	46	40	34			63	57	51	45	39						62	
Her AW L10 3								93							74											54								
Her DI L10								93		7s					74					62s					54								17s	
Her GU E10U					48		65s								34s			51										37s		54				
Her LV L10 2					48		65s								34s			51+										37s		54				
Hya SZ 90 2						36							35													33								
Hya WZ 90 2					35	42						34	41							33	40							39						
Hya AI L10 2					79+										8+						37+								66+					
Hya ET 90										35																								
Lac RW L10										35	15s																							89s
JD 593 ..		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		

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Lac	SW	S10	66s	62s			67	63	59			64s	60s		65	61	57			62s	58s			63	59	55		64s	60s	56s				
Lac	UW	E10S	40					69					98					27					56					85						
Lac	CO	E10X	63+													51+				60+														
Lac	CZ	90		54			57			59			62	48		64	51				53		56		58	45		61	47		63			
Lac	V0345							53+								2+						51+									0s			
Lac	V0364							53+								2+						51+									0s			
Leo	RR	RR		60	50	41	31		57	48	38		55	45	36			52	43	33			50	41				48	38					
Leo	SS	RR	52		40			53		41			54		42								44						45					
Leo	ST	RR	61	57	52	48	44		39	35					56	52	47	43	38	34				55	51		47	42	38					
Leo	AG	E10S	32s					41					50s											37					46s					
Leo	AM	S10	35+	45s	36+	46	38+	47s	39+	49	40s	50s	41	33+	42s	34+	44	35+	45s	36+	46	37s	47s	39	48	40s	49s	41	51	42s	52s	43		
Lyn	TY	E10S	3											43																				
Lyn	CD	E10S	3	50						32s											42s								52s					
Lyr	RR	RR	46	60			43	56				53				50	63					47	60		44	57			40	54			37	
Lyr	RZ	90	45	48	50	52	54	57	59	61	63	66												42	44	46	48	51	53	55	57	60		
Lyr	UZ	S10									63s	58	53s	47															60	55s	49	44s		
Lyr	CN	90		62		67	49		55		61			49		55		60	43		48		54		60	42			48	53	59			
Lyr	EZ	RR				45	50	55	60	65						43	48	53	58	63					41	46		51	56	61				
Lyr	IO	90		47	63			51				55			44	59			48	63			52		40	56			44	60				
Lyr	beta	S10	3				76s										23				70s						17							
Mon	UX	E10S	2		88			83s		78				73s		68					64s		59		54s									
Mon	V000V		42s			45			47s		50						52s		55															
Mon	AQ	E10S	2			33																												
Mon	AR	L10	1				1\	70\										61\	46s	31\														
Mon	AT	E10S	2											33																				
Mon	AV	E10S	2	15			63s			10			57s			5					52s		99											
Mon	EZ	E10U	2	32			33		34		35																							
Mon	IL	E10S	2				76			79				81				84								86		89						
Mon	V0448						36s											34																
Mon	V0530						33s	38s			32	38										36												
Mon	V0634										32																							
Oph	U	ST					54				57					61												51s					54s	
Oph	RZ	L10	1																															
Oph	ST	90					61	51						62	52						57	47		62	53				58	48				
Ori	Z	E10S	2				64			84							4																	
Ori	BM	E10S	3																															
Ori	CP	E10S	2	67				99						31						63							95							
Ori	DN	L10	2											70																				
Ori	FO	L10	2		7																													
JD	593	..	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	

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Ori	FT	E10X		7					35s																												
Ori	GG	E10X							35																												
Ori	V1016	L10	39																																		
Peg	V000V												65	62																							
Peg	V000W												65	62														63s									
Peg	AV	RR			66			61						64	59								62	57													
Peg	AW	L10	2		81s					12					43s				74						5s								36				
Peg	CG	90						66	60														61	55								62	55				
Peg	DF	L10	3										66															36									
Peg	DH	RR																																			
Peg	GH	E10S	3		66									61s																							
Per	RW	L10	2				81												1																		
Per	AR	90		41				39		37				35	33																		37				
Per	AY	L10	3							25													3														
Per	IQ	E10X																		40+														37+			
Per	KN	E10U							33				36s																								
Per	LX	L10					54s				56				58s			60					62s			64											
Sge	SY	E10S	3				59s																51										59				
Ser	V000Y		43	58				43	57				43	57			43	57					43	57			43	57									
Ser	AN	90	3	44	48	53	57	62	66					40	45	49		53	58	62						37	41				45	50	54	59	63		
Ser	BH	90	3	48	65	52	39		56	43	60		47	34	64	51	38		55	42	60		46	64	51	38				55	42	59					
Ser	EG	L10	3		44		93s			42	90s				39	88s				36	85s				34	82s					31	80s					
Ser	LX	K10	3	40+	50+	45+	41+	51+	46+	42+	37+	48+	43+	38+	49+	44+	39+	34+		45+	40+	35+	46+	41+		36+	47+	42+	37+	48+		43+	38+	49	44+	39+	
Sex	T	90	3	33					50	47	45	42		40	37	34							46	44	41	38	36										
Tau	RW	S10	3			35																															
Tau	CD	S10	3				36																														
Tau	EN	E10S				39s						35s													36												
UMa	W	S10		47+	47+	47+	47+	47+	47+	47+	47+		47+	48+	48+	48+	48+	48+	48+	48+	48+	48s		48s	48s	49s	49s	49s		49s	49s	49s	49s	49s			
UMa	RV	RR		41	34		62		56	49	43	36		64	58	51	45		39			60		53	47	41	34				62	55	49	43			
UMa	RW	E10S									51															50s											
UMa	TU	RR		41	52	64		31	42	54	66		33	44	56		35		46	58			37		48	60		38		50					40		
UMa	TX	S10																																		37	
UMi	W	S10		64	35					45					55													46								56	
Vir	ST	90	2	62	44		50		55	37	61	43	66	48	54	36	59		41	64	47		52		34	57	40	63	45		50		56	38			
Vir	AG	E10D		59	55s	52	48s	44	41s	37	34s	62s	59	55s	51	48s	44	41s		37	33s		58	55s		51	48s	44	40s	37					54s	51	
Vir	AH	S10		39+	41+	42+	44+	46s	48	50s	52	33+	35+	37+	39+	41+	43s	45		46s	48	50s	52	34+		36+	37+	39s	41	43s		45	47s	49	51s	52	
Vir	AT	90	2						38	43	48	53	58										37	42	47	52					36	41	46	51			
Vir	AV	90			33	65		62		59	56				53	50	47									44	41						61		58		
Vir	CG	E10S		59	53	46	40				61s	54s	48s		41s												64s	57s	51s	44s		38s			59		
JD	593	..	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36				

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Vul	Z	S10	3				61					52																								
Vul	BN	90	3	66			63				61		58			55		52				49			46			62				59				
Vul	DR	E10X																							48+											
Vul	EV	E10S	3	56																																
JD	593	..		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
2021	Mai		P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
And	SW	RR	3													61						59			57			55								
And	SY	L10	1	39	44	49																														
And	TW	S10											62																							
And	XX	90											61																							
And	CD	L10	2			52	\	59	/	65																										
And	OV	90				61								61	55								61	55					55							
Aqr	SW	RR						60						57					54						59								56			
Aqr	SX	90	3				63							59														52	59							
Aqr	CD	E10S	3	31					15					98									82		66			50								
Aqr	LL	L10	2											8s										17										26s		
Aql	AA	RR		63				61				59													53	61								57		
Aql	V0341				63								57											55			60					49				
Aql	V0889				63+								57											55			60+					49				
Aql	V1353	E10S		59					54s					49		61s								44s		56			52s			47	59s			
Aql	V1426	E10S		42s	1+	18+	36+	53	12+	30+	47s	6+	23+	41+	58	17+	35+	52s	11+	28+	46	5+	22+	40+	57s	16+	34+	51	10+	27+	45s	4+	21+	39+		
Aql	V1430	E10S			59s				52				58s											50			55s	43s				49			54s	
Ari	RS	L10	2																																	
Aur	TZ	90		42		38								43		39									40											
Aur	CQ	L10	2			85s																														
Aur	epsil	L10	2																																	
Aur	zeta	L10	1																																	
Boo	RS	RR		38	51		40	53		42	55		44	57		46	59		47	61		49			38	51		40	53		42	55		44	57	
Boo	TW	90		47	53	60					39	45	52	58					37	43		50	56					42	48	55						
Boo	UU	90		52	44	35			55	46	38			58	49	40			60	52		43				54	46	37								
Boo	UY	90		60	55		51			46		41		36					57			48				43	38									
Boo	AC	E10D		41+	46s	52s	40+	46	52	40+	45s	51s	39+	45	51	39+	45+	50s	38+	44		50	38+	44+	50s	38+	43+	49	37+	43+	49s	54s	42+	48	54	
Boo	CM	90		54		36	58			41		46					50		55			37	59			42		46				51		55		
Boo	CQ	90	3	52	37	50	62	47	60	44	57	41	54	39	52	36	49		46	59		44	56	41	54	54	38	51		48	61	46	58	43	56	40
Boo	CS	90			38	48	59			36	47	57					45	55									41	51				39	49	60		
Cam	SS	E10S	3			20s		61			2s		43		84s		26									49s		90			32s		73			
JD	593	..		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66		

2021 Mai	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Cam SV S10		45	53s	42	61		50s	38	57	46s		54	43s	61s	50	39s	58s	47		54s	43		51s	40	58	47s		55	44s	51	40s				
Cam AK E10S		51	62s								41	53s									43s	55								45	57s				
Cam AN L10 3		51	62s								41	53s									43s	55							45	57s					
Cam AT E10S				39	48s			58			37		46s	56							44s	54					42s	52							
Cnc S L10					98										47								95												
Cnc RU L10 2										56											74								91						
Cnc RW 90				39	48					41					43							45					37								
Cnc RZ L10 2			37s	99/								57\	\	19	81/								39\	\	1s	63/									
Cnc TT 90				40																															
Cnc TU E10S 3							23					79						35																	
Cnc TW L10 2																			/	/															
Cnc UU L10 2							15																												
Cnc ZZ L10 2																																			
Cnc AQ 90				40						43					37																				
CVn W 90		36	47	57				43	53				40	50	60										43	54			40	50					
CVn Z 90		42	38						61	57		54	50				46	42	38						61		57	54		50					
CVn RS S10 3					55s												55												54s						
CVn RZ 90		44	58		41		55		39	52			36	49								46	60		44	57	41	54		38	52				
Cas RX L10 2			94		/	/											\	\				10s		/	/							\			
Cas RZ S10 3			41	60					39	58						36	56							53			51								
Cas SX L10 2			94\	\	77	/	60/																												
Cas TV S10								45									51									58	39								
Cas TW S10								54		40								54				40					54			40					
Cas TX E10S		50s			42s													59						45			37								
Cas AQ L10 2		11	16/		91\		97s	/	2/			77\	83	88/				63\	69s	74/				49\	55	60/			35\	41s	46/				
Cas BM L10 3																																			
Cas DN E10S		57s							50s							43s	59							37s	52					46					
Cas GG E10S													49																53						
Cas GU E10U													49					59																	
Cas IL E10S 3					61							52										42													
Cas IT E10X					61							52										42													
Cas PV E10X								53s																	54s				54s						
Cas V0368																														52					
Cas V0375		45		40			61s		56s			50s		45s											55		50		45						
Cas V0381		45		40			61s		56s			50s		45s											55		50		45						
Cas V0459						74s									20s										65s						11s				
Cep RZ 90		51	44	36	60	52	45	38	61	54	46	39	62	55	48	40						56	49	42		58	50	43	59	52	44	60	53	45	
Cep V000W		41+	39+	36+	48+	45+	42+	40+	37+	49+	46+	43+	41+	38+	36+	47+	44+	42+	39+	37+	48s				45+	43+	40+	37+	49s	46+	44+	41+	38+	50s	47
Cep XX S10						60									62																				
JD 593 ..		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66			

2021 Mai	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Cep XY	E10S							48										58																
Cep ZZ	S10								36		50																49							
Cep AI	E10S 3																45	56s																
Cep CW	E10X								50+											42+														
Cep EI	L10	65				87s					9				31s			53					75s				97					19s		
Cep EX	L10												74															18						
Cep NN	E10S	47s	50	53s	56	59s	62																											
Cet TU	E10S 2																																	
Cet TV	L10 2																																	
Com S	90	38	55			49			42	59		53			46			39	57			50			43				54					
Com ST	90 3		48			48			47			47		46			46			45			44				44			43				
CrB U	S10						38																								54			
CrB RV	90 3	48	48	47	46	46	45	45	44	44	43	43	42	42	41	41	40	40	39	39	38	37	37											
Crt W	90 2			35																														
Cyg Y	S10			35																														
Cyg UY	RR	51	63				55				48	60				52				45	57				50				42	54				
Cyg XZ	RR	53	46	39				59	53	46	39				59	53	46	39				59	53	46	39				60	53	46		40	
Cyg BO	E10S	61s	49							51							54							56	44s					59		47s		
Cyg BR	E10S	53s		52		52s		52	52s		52	52s	52			52	52s	51				51s	51	51s			51	51s			51			
Cyg DM	RR	50	60				54	48			58	52					61	45	55			49	59	43			53		47					
Cyg V0367		24	/	/				\	\	54s	/	/					\	\	84			/	/				\	\	14s	/	/			
Cyg V0463		42	48s	54	60s																	42s	48	54s	60									
Cyg V0477		42	48s	54	60s							43s										42s	48+	54s	60			51s						
Cyg V0541											76+																							
Cyg V0548							57s	47	37s						59s		50	40s								52		43s						
Cyg V0788												35\	31	26\																				
Cyg V0891					57		48																			54		44						
Cyg V0909			50s							51							52s								54							55s		
Cyg V1061	E10S		48							52							56								60									
Del DX	90 3					59	54								57	52							61	55	50								59	
Del NN	L10 1																																	
Dra RW	RR	56	45			55	43			53	42			52	40			50	39		61	49	38		59	48			58	46				
Dra SU	RR		38		36								61		59			57		55		54	52		50			48		46			44	
Dra SW	RR			36	50				49			47	61				46	60		45		59			44	58			43	56				
Dra TZ	E10D		52s	39s		55	42	58s	45s			62	48			51s	38s		54	41		58s	44s		61	47			50s				53	
Dra V000Z		39	35	63	60	56	52	49	45	41	38		62	59	55	51	47	44	40			61	57	54	50	46	43	39		60			56	
Dra WW	S10										40																							
Dra XZ	RR 3			62	57	53	48	43	39						58	53	49	44	39						59	54	49	45	40					
Dra AI	S10	56					36	56							55										54								53	
JD 593	..	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65		66	

2021 Mai	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
Dra BF L10		56					36	56						55		37s				54					54	58s							53			
Dra BK 90		49			45	63		41	59		37	55			51			47						39	58		54			50		52s				
Dra BU E10S								59	55s	50	46s	42	37s													45			60s	56						
Dra DD 90				50				42			55				47			61	39						53			58								
Dra GV L10													94																							
Equ S S10																										55										
Gem RR 90																																				
Gem RY L10 2				23				88s																												
Gem YY S10		37		40s										36s		39																				
Gem OW L10 2																																				
Her TW RR 3		61	41	61	41	61	41	61	41	61	41	60	40	60	40	60	40	60	40	60	40	60	40	59	39	59	39	59	39	59	39	59	39	58		
Her TX S10		59s	62																																45	
Her UX E10D			48s			58s				45			55					42s		52s				39			49			59						
Her V000X		40			58	49	41			59	50	41			60	51		42		61	52		43			53	44				54		45			
Her V000Z		42	62	50	38			58	46			54	42			51		39		59	47				55	43		51	39		60	48				
Her AK S10		50	56s	40+	45	51s	56	41+	46s	51	36+	41+	46	52s	36+	41	47s	52	58s	42s	47	53s	37+	42	48s	53	37+	43s	48	54s	38+		43			
Her AR 90		56	50	44	38			61	55	49		43	37				60	54	48	42					59	53	47	41			74					
Her AW L10 3				34										14																	74					
Her DI L10				34							72s			14												27s				74			82s			
Her GU E10U												40s	57													43s	60									
Her LV L10 2				37s										40s	57											43+	60									
Her MM E10S																										60s		58					56s			
Hya AI L10 2																																				
Lac RW L10												26s													63s									00s		
Lac SW S10		61	57	53			62s	58s	54s	51s		59	55	51		60s	56s	52s	49s	61	57		53	49		58s	54s	50s	47s	59	55	51	48			
Lac UW E10S			14					43						72							1					30						59				
Lac CO E10X			48+			56+															44+				52+		61+									
Lac CZ 90		50			52			55	41		58	44		60	47			49							38	54	41	57	43		59	46				
Lac V0345							50+							99+											48+					97+						
Lac V0364							50+	61s						99+											48+					97+						
Leo RR RR			45	36				43						41			48	38								45		43						41		
Leo SS RR				46						47																								39		
Leo ST RR							50	46	42	37							50	45	41	37											45	40				
Leo AG E10S																					42s															
Leo AM S10		35s	44s	36	46	37s	47s	38	48	39s		41		42s		43		44s		45	37s				38	39s	40		42s		43					
Lyn TY E10S 3									42																	41										
Lyn CD E10S 3													44																							
Lyr RR RR		51			47	61				44	58			41	54			38	51							48	61		45	58			42	55		
Lyr RZ 90		62												38	40	42	44	47	49	51	53				56	58	60									
JD 593 ..		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55					56	57	58	59	60	61	62	63	64	65	66

2021 Mai	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Lyr UZ S10		38											62	57s			51	46s	41															
Lyr CN 90		41		47	53			58	41	46			52	58	40		46		51			57	39		45		51		56	39		44		
Lyr EZ RR				39	44			49	54	59				37	42		47	52	57						40		45	50	55	60				
Lyr IO 90			48		37			52		41	56			45	60			49			37	53			41	57			45					
Lyr beta S10 3		64s						11						58s								5						52s						
Mon UX E10S 2																																		
Mon V000V																																		
Mon AR L10 1																																		
Mon AV E10S 2																																		
Mon IL E10S 2																																		
Oph U ST						57s	41			61s	44						48					51					54	38s				57		
Oph RZ L10 1																																		
Oph ST 90		63	53	43			59	49				54	44		59		49	39			55	45			60	50	40			55	45			
Ori Z E10S 2																																		
Ori BM E10S 3																																		
Ori CP E10S 2																																		
Ori DN L10 2																																		
Ori FO L10 2																																		
Ori V1016 L10																																		
Peg U S10																	61s		60s			60s		60s				60s				60s		
Peg V000V				62	60	58	55																			60	58	56	53	51	49			
Peg V000W				62	60	58	55																			60	58	56	53	51	49			
Peg AV RR		60		55				62	58			53					60		56			51					58		53	49				
Peg AW L10 2						67s				98							30s					61					92s							
Peg BH 90				62								60																				54		
Peg BK E10S													58												56									
Peg CG 90								56						57	50							57	51						58	52	45			
Peg DF L10 3											6																			76				
Peg DH RR				62									58	61																55	57	59		
Peg GH E10S 3							61s							56																51s				
Per RW L10 2																																		
Per AR 90			35																															
Per AY L10 3			81											58														36						
Per IQ E10X			35+																															
Per LX L10											71			73s					75											77s		79		81s
Psc SS 90 3																																		60
Sge SY E10S 3														52s												60s							45	
Ser V000Y		43		57			42	57				42	56				42	56										42		56				42
Ser AN 90 3							37	42	46	51	55	59							38	42	47	51	56	60									39	43
JD 593 ..		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66		

2021 Mai	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Ser BH	90	3	46	63	50	37	54	41	58	45	50	54	41	58	45	49	53	40	57	44															
Ser EG	L10	3		29	77s			26	75s		23	72s		21	69s		18	67s		15	64s														
Ser LX	K10	3	50	45+	40+	35+	46+	41+	36+	47	42+	37+	48	43+	38+	49	44+	39+	50	45+	40+	51	46	41+	52	47	42+	37+	48	43+	38+	49	44+		
Sex T	90				42		40	37						39																					
UMa W	S10		49s	49s	49s	50s	50s	50s	50s	50s	50s	50s	50s	50s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	51s	
UMa RV	RR		36			58	51	45	38			60	53	47	40				55	49	43						57	51	45	38					
UMa RW	E10S		49									48s										47													
UMa TU	RR		52			42	54			44	56				46									38	50				40	52					
UMa TX	S10			43		49			56																										
UMi W	S10						37					47					58						38						48						
Vir ST	90	2	61	43	49		54	36	60	42		47	53	58		40	46	51				39	44				49								
Vir AG	E10D		47s	44	40s	36		54s	51	47s		43	40s	36			50	47s	43	39s								46s	43	39s					
Vir AH	S10		54s	36+	38	40s	41	43s	45	47s	49	51s	53		36s	38	40s	42	44s	46	47s	49	51s		38		40s	42	44s	46	48s				
Vir AT	90	2					40	45	50								39	44									38	43							
Vir AV	90		55	52			49	46	43			40	38													54	51	48	45						
Vir CG	E10S		52	46	39		60s	54s	47s	41s			62	55	49	42						57s	50s	44s	37s			58	52	45					
Vul Z	S10	3	62				53				44																								
Vul RR	E10S	3							46						51				56					61											
Vul BN	90	3		56			53		50			47	44			41	60				38	57		54			51							48	
Vul DR	E10X			48+								48+									49+											49+			
Vul EV	E10S	3		61														54																	
JD 593	..		36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66		
2021 Jun	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
And SW	RR	3								59			57				55					53					51		60	49					
And SY	L10	1				30	35	40																											
And TW	S10									54s		60																							
And XX	90							52				58										53					59		48						
And CD	L10	2					96\	\	3s	/	10/																								
And OV	90					55	49					55	49									55	49	43					55	49					
Aqr SW	RR				53					59	50				56	48						53	45				58	50							
Aqr SX	90	3		56						52	59						48	56							45	52	59								
Aqr CD	E10S	3			17					1					85					69				52					36						
Aqr HH	90													55						57				60											
Aqr LL	L10	2								35																							53		
Aql AA	RR			55				53				51	60			49	58		47		56		45	54				43	52	60					
Aql V0341			54			58		47				52				56			45				50				55				44				
JD 593	..		67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97		

2021 Jun	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Aql V0889		54				58+			47				52				56+		45					50			55	2s	44			
Aql V1353 E10S			42s		54				49s					45			57s		40s			52				47s		59				
Aql V1426 E10S		56	15+	32+	50s	9+	26+	44	2+	20+	37+	55s	14+	31+	49	8+	25+	43s	1+	19+	36+	54	13+	30+	48s	6+	24+	41	59s	18+	35+	
Aql V1430 E10S			42s		60	48			53s	41s	59	47			52s	40s		58	46			51s	39s		57	45		50s	38s			
Ari RS L10	2																71								51							
Aur CQ L10	2																															
Aur epsil L10	2																															
Aur zeta L10	1																															
Boo RS RR			45	59		47			49		38	51		40	53		42	55			44	57		45	59		47				38	
Boo TW 90			40	47	53	60					39	45	52	58							44	50	56				42	48	55			
Boo UU 90		59	51	42				53	45				56	47	39			59	50	42				53	44			55	47	38		
Boo UY 90			49		45		40								51			47		42											48	
Boo AC E10D		42+	48s	54s	42+	47	53	41+	47s	53s	41+	47	52	40+	46s	52s	40+	46	51	39+	45s	51s	39+	45	51	39+	44s	50s	38+	44	50	
Boo CM 90			38		43				47		52			56	39				44				48		53					40		
Boo CQ 90	3	53		50		48		45	58	42	55	40	52		50		47		44		42	54	39	52	49		46		44			
Boo CS 90				47	58				45	56			44	54					42	52				40	50				38	48		
Cam SS E10S	3	14s		55		96s			37		79s			20	61s				2		43s		85		26s		67			8s		
Cam SV S10		59s	48		56s	45		52s	41	60	49s	38	56	45s	53		42s	60s	49	38s	57s	46		53s	42		50s	39	58	46s		
Cam AK E10S										48s	59									38s	50							40	52s			
Cam AN L10	3									48s	59									38s	50							40	52s			
Cam AT E10S			40s		50		59s			38s		47		57s					45		55s					43		53s				
Cnc S L10																																
Cnc RU L10	2																															
Cnc RW 90																																
Cnc RZ L10	2		21\	83	/	45/																										
Cnc TU E10S	3																															
Cnc TW L10	2																															
Cnc UU L10	2																															
Cnc ZZ L10	2																															
CVn W 90				47	57					43	54				40	50										43	54			40	50	
CVn Z 90			46		42		38						58	54			50		46			42		38								
CVn RS S10	3									54												53s										
CVn RZ 90				49					46	59			43	57			40	54				51			48				45			
Cas RX L10	2			26				/	/								\	\				43s		/	/							
Cas RZ S10	3		49						46						44							41					39	59				
Cas SX L10	2							50\	\	33	/	16/																				
Cas TV S10					45									52											58	39						
Cas TW S10						54			39								54		39								53		39			
Cas TX E10S									54s			47s		40s														57		50		
JD 593 ..		67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97

2021 Jun	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Cas AQ L10	2			22\	27	32/					8\	13s	18/			94\	99	/	4/			80\	85s	91/			66\	71	77/					
Cas BM L10	3																																	
Cas DN E10S						39	54s								48s							41s	57						50					
Cas GG E10S													56														60							
Cas GU E10U															43						52													
Cas IL E10S	3				60s							58									49											39		
Cas IT E10X												58	39s																			39		
Cas OX E10X																																56+		
Cas PV E10X					54s							54s																				56+		
Cas V0368								42																								46s		
Cas V0375		39	60s				55s			50s			44s			39s		60				55			50				44			39		
Cas V0381		39	60s				55s			50s			44s			39+		60				55		58s	50				44			39+		
Cas V0459										57s						60							3s				49s					57		
Cep RZ 90		38	54	47	39		55	48	41			57	49	42	58		51	43			59	52	45			53	46	38	54	47	40			
Cep V000W		45+	42+	39+	51s	48	46+	43+	40+	38+	49	47+	44+	41+	39+	50	47s	45+	42+	40+	51	48s	46+	43+	41+	38+	49s	47	44+	42+	39+			
Cep XY E10S		45														55																	42	
Cep ZZ S10																48																	48	
Cep AI E10S	3				46s		58																				48						59s	
Cep CW E10X								52+													44+													
Cep EI L10					41					63s			85								7s					29						51s		73
Cep EX L10											61																4							
Cep NN E10S			38	40s	43	46s	49	52s	55	58s																								
Cet RR RR																																		60
Cet TU E10S	2																																	
Cet TV L10	2																																	
Com S 90		47			40					51		44				38						48				42							45	
Com ST 90	3	43			42					42		41				41		40				40				39							38	
CrB U S10							45																											
CrB RV 90	3											60	59	59	58	58	57	57	56	56	55	55	54	54	53	53	52	52	51	50	50	49		
Cyg UY RR		47	59				39	51				44	56				48						41	53			46	58					38	50
Cyg XZ RR				60	53		46	40				60	53	46	40												60	53	46	40				
Cyg BO E10S								49s								52s	39									54s	42						57s	44
Cyg BR E10S			51s	51			50s		50	50s		50	50s			50	50s	50							50s		49	49s			49		49s	
Cyg DM RR		57	41	51				45	55	39		49	58	42				52							56	40	50			60	44	54		
Cyg V0367								44	/	/							74s	/	/									4	/	/				
Cyg V0463							42	48s	54	60s																							54s	60
Cyg V0477				56s			42	48s	54	60s	60s																						54s	60
Cyg V0541																																		77+
Cyg V0548				55	45s								58	48s	38											60	50s	41						
JD 593 ..		67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96		97	

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Cyg V0788																																20\				
Cyg V0891													60		50		41																			
Cyg V0909							56						58s				38s			59			40								41s					
Cyg V1061 E10S												38						42								46										
Del DX 90 3		53	48								57	51	46				60	55	49	44							58	53	47	42						
Del NN L10 1																																				
Dra RW RR		56	45			55	44				54	42					52	41			51	39				50	38	60	48		58	47				
Dra SU RR			42		40		39													59			57		56	54			52		50					
Dra SW RR		41	55			40	54				39	53					38	52			50			49				48			47					
Dra TZ E10D		40		57s	43s		60	46				49s					53	39			56s	42s			59	45		48s		52	38	55s	41s			
Dra V000Z		52	49	45	41	38			59	55	51	48	44	40				58	54	50	46		43	39		60		56	53	49	45	42				
Dra WW S10		55																																		
Dra XZ RR 3					59	55	50		45	41					60	55	51	46	41								56	51	47	42						
Dra AI S10									53						52					51						51						50				
Dra BF L10									53						52+					51						51						50				
Dra BK 90			46			42	60		38	56							53			49						45		41	59		55		51			
Dra BU E10S		47	43s	39																							57s	53	49s	44	40s					
Dra DD 90		50				42			56						48			40			54								46		59	38		51		
Dra GV L10						80																										65				
Equ S S10																					60										47					
Gem RY L10 2																																				
Gem OW L10 2																																				
Her TW RR 3		38	58	38	58	38	58	38	58	38	58	57					57			57						56		56		56		55				
Her TX S10			48s	51	54s	57	60s																													
Her UX E10D			46s			56s					43						53										40s		50s		60s		47		56	
Her V000X					55	46					56	47	38			57	48	39		58	49	40			58	49	41		59	50						
Her V000Z			56	44			52	40		60	49				57	45				53	41	49			58	46	49		54	42						
Her AK S10		49s	54	38+	44s	49	54s	39+	44	49s	55	39+	45s	50	55s	40s	45	50s	56	40	45s	51	56s	41s	46	51s		57	41	46s	52	57s				
Her AR 90		58	52	46	40						57	51	45	39			45	39			57	51	45	39				56		50	44	38				
Her AW L10 3									54								34															14				
Her DI L10								54					37s																							
Her GU E10U								45s																												
Her LV L10 2								45s								51s																				
Her MM E10S				54					52s				50					48s			48s										42					
Hya AI L10 2																																				
Lac RW L10																																				
Lac SW S10		60s	56s	52s	48s	45s	57	53	49	46	42+		37s	54s	50s	46s	43+	55	51	47	44+	40+	52s		74s	48s	44+	41+	53	49	45	42+	38+	50s	46s	
Lac UW E10S				88						17							46																			33
Lac CO E10X						40+			49+				57+																			45+		54+		
JD 593 ..		67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96		97			

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Lac CZ	90		48		51			53	40			56	42	58	45			47				50			53	39		55	41	58			
Lac V0345													95+															94+					
Lac V0364													95+															94+					
Leo RR	RR																																
Leo SS	RR				40																												
Leo ST	RR										40											39											
Leo AG	E10S	38s																															
Leo AM	S10						38	39s	40													38											
Lyn TY	E10S	3		41													40																
Lyr RR	RR		39	52				49				45	59				42	56		39		52			49				46	59			
Lyr RZ	90				38		40	43	45	47	49	52	54	56	58														39	41	43		
Lyr UZ	S10	59s	54	48s	43																56	50s	45	39s									
Lyr CN	90		50	56	38			44	49			55		43			49		54	60		42		48	54		59	42	47				
Lyr EZ	RR			38	43		48	53	58					41			46	51	56						39	44	49	54	59				
Lyr IO	90	49		38	53			42	57			46					50			38	54				42	58		46					
Lyr beta	S10	3	99					46s						93									41s					88					
Mon UX	E10S	2																															
Mon V000V																																	
Mon AR	L10	1																															
Mon AV	E10S	2																															
Mon IL	E10S	2																															
Oph U	ST	41s			60		44s					47s					51s					54s	38				57s	41					
Oph RZ	L10	1																															
Oph ST	90		51	41			56	46				52	42				57	47				52	42		58	48	38		53				
Ori Z	E10S	2																															
Ori BM	E10S	3																															
Ori CP	E10S	2																															
Ori DN	L10	2																															
Ori FO	L10	2																															
Ori V1016	L10																																
Peg U	S10		59s				59s	59s				59s	53	59s			52	59s	52			58s	52	58s	52		58s	52	58s				
Peg V000V													60				58	56	53	51	49		46	44									
Peg V000W												60					58	56	53	51	49		46	44									
Peg AV	RR			56			51	46				59	54	49			44		57			52	47			42	59	54					
Peg AW	L10	2	23				54s					85					16s					48						79s					
Peg BH	90						59	52						57			49							54			47						
Peg BK	E10S		54										52											50									
Peg CG	90			59	52		46					60	53	46				60	54	47		41					54	48	41				
Peg DF	L10	3							45																15								
JD 593	..	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	

2021 Jun	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Peg DH RR			54	56	58	60							50	52	55	57	59						47	49	51	53	55	58	60			
Peg GH E10S	3						56										51s								46						57	
Per RW L10	2																						0									
Per AR 90																		58														
Per AY L10	3						14											91													69	
Per KN E10U																							58									
Per LX L10			83					85s				86					88s				90				92s		94					
Psc RU 90	3						60								58								60		55						58	
Psc RY 90	2																															
Psc SS 90	3														57		58	60														53
Sge SY E10S	3						52						60										45s								53s	
Ser V000Y			56		42		56		41			56		41							41				41						41	
Ser AN 90	3	48	52	57							40	44	48	53	57									40	45	49	54					
Ser BH 90	3		49				53	40	57	44			48				52	39	56	43			47				52	39	56	43		
Ser EG L10	3	13	61s				10	59s				7	56s				5	53s				2	51s				99	48s				
Ser LX K10	3	39+	50	45	40+	51	46	41+	52	47	42+	53	48	43+	38+	49	44+	39+	50	45	40+	51	46	41+	52	47	42+	53	48	43	38+	
Tri RU E10S	2														55																	
UMa W S10		52s	52s	52s	52s	52s	53s	53s	53s	53s	53s	53s	53s	53s	53s	53s	53s	54s							38	38	38	38	38	38	38	
UMa RV RR			60	53	47	40						55	49	42				57	51	45	38				59	53	47	40				
UMa RW E10S			47s												46											45s						
UMa TU RR			42					44					46									38						40				
UMa TX S10																	38				44											
UMi W S10			59							39					50						60							40				
Vir ST 90	2	42	48						41	46					39		45					38	43									
Vir AG E10D							46s	42	39s								42	39s									38s					
Vir AH S10					39		40s	42	44s	46							39	41s	43									39	41s			
Vir AT 90	2						42																									
Vir AV 90			43	40																					45	42		39				
Vir CG E10S	39						53s	47s	40s				55	48	42							50s	43s						45	38		
Vul Z S10	3	53					44																						54			
Vul BN 90	3		45				42		39	58			55				52		49			47		44				41	60			
Vul DR E10X									49+									50+									50+					
Vul EV E10S	3						47																		40							
JD 593 ..		67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97

2021 Jul	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
And SW RR 3			58	47			57	45				55	43			53	41		51			60	49			58	47			56	45		
And SY L10 1											21s	26	30/																				
And TW S10												46	52s		58																		
And XX 90				54					60				49				55			44		61			50			39		56			
And CD L10 2												40\	\	47	/	54/																	
And OV 90	43						55	49	43						61	55	49	43	37			61	55	49	43					61	55		
Aqr SW RR		55	47				60	52	44					57	49	41					54	46	38		60	52	43			57	49		
Aqr SX 90 3		48	56						45	52		59					41	48	56				38	45	52	59						41	
Aqr CD E10S 3				20					4					88					71				55					39					
Aqr HH 90			51						53					55			57				60			47	62			49				51	
Aqr LL L10 2											62s										71										80s		
Aql AA RR		41	50	58			48	56				45	54			43	52	61		41	50	58		39	48	56		37	46	54			
Aql V0341		59		48					53			42	58			47				51			40	56			45	60			49		
Aql V0889		59		48					53	14s		42	58			47				51	26s		40	56			45	60			49	38s	
Aql V1353 E10S		42	55s				38s	50						45s	57						40	52s				48		60s			43s		
Aql V1426 E10S	53s	12+	29+	47	5+		23+	40+	58s	17+	34+	52	10+	28+	45s	4+	22+	39+	57	15+	33+	51s	9+	27+	44	3+	21+	38+	56s	14+	32+	49	
Aql V1430 E10S	56	44			49s				55	43		61s	48s			54	42			60s	47s		53	40		59s	46s			52	39		
Ari X RR 2																			59												62		
Ari RS L10 2				32									12									92									73		
Aur CQ L10 2																												83s					
Aur epsil L10 2																																	
Aur zeta L10 1																																	
Boo RS RR	51		40	53			42	55	43				45			47				49	38	51		40		41			43				
Boo TW 90					40		47	53						39	45	52						37	44	50					36	42	49		
Boo UU 90			58	49	41					52	43					55	46	37				49	40			51	43					45	
Boo UY 90		44	39														41																
Boo AC E10D	38+	44s	49s	55s	43		49	55	43+	48s	54s	42+	48	54	42+	48s	53s	41+	47	53	41+	47s	52s	41+	46	52	40+	46s	52s	40	45	51	
Boo CM 90		44		49									41				45											42					
Boo CQ 90 3	41		38	51			48	46		43		40		38			48		45			42		40	37					44			
Boo CS 90			46							44						42					41				39				37				
Cam SS E10S 3		49	90s				32		73s			14		55s			96			38s		79		20s		61			2s		43		
Cam SV S10	54	43s		51	40s		58s	47		55s	44		51s	40	59	48s	37	55	44s		52	41s	59s	48	37s	56s	45		53s	42	60	49s	
Cam AK E10S									42s	54										44	56s							46s	58				
Cam AN L10 3									42s	54										44	56s							46s	58				
Cam AT E10S		41		51s			60			39		49s		58			37		47s		56				45s		54						
Cnc S L10																																	
Cnc RU L10 2																																	
Cnc RZ L10 2																																	
Cnc TU E10S 3																																	
JD 593 ..	97	98	99																														
JD 594 ..				0	1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	

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Cnc TW L10 2																																					
Cnc UU L10 2																																					
Cnc ZZ L10 2																																					
CVn W 90						47					44	54			40		50				37	47					44						40				
CVn Z 90		54		50			46		42		38													46		42		38									
CVn RZ 90			42					40				37	50				47					45			42				39								
Cas RX L10 2		\	\				59			/	/								\	\			76s		/	/											
Cas RZ S10 3			56							54						51							49					47									
Cas SX L10 2												7\					90	/	73/																		
Cas TV S10			45											52										58		39											
Cas TW S10							53			39							53		39								53			39							
Cas TX E10S			42														59s		52s				45s		37s												
Cas AQ L10 2		52\	57s	63/						38\	43	49/			24\		29s	35/					10\	15	21/		96\	\	1s	7/							
Cas BM L10 3																																					
Cas DN E10S							43	59s							52s									45s	61				39s	54							
Cas GG E10S																	39																			42	
Cas GU E10U																	45				55							45									
Cas IL E10S 3																											45										
Cas IT E10X															57s								46s		55		45										
Cas OX E10X			54+						52+						50+								48+			46+				43+							
Cas PV E10X		55s	54+						52+	55s					50+		55s		48+					46+					43+		56s						
Cas V0368								58									49										39		62s								
Cas V0375		60s		55s				49s		44s				39s	60			54					49		44			38		59s							
Cas V0381		60s		55s			55s	49s		44s				39+	60			54		52s			49		44			38+		59s							
Cas V0459			94s				55							40s	54										52+			50		32s							
Cep RZ 90		56	48	41			57	50	42		58	51	44		60	52	45	37	61	54	46	39	55	47	40		56	49	41					57			
Cep V000W		50s	48	45+	43+	40+	51s	49	46+	44+	41+	38+	50	47+	44+	42+	39+	37+	48s	45+	43+	40+	38+	49s	46+	44+	41+	39+	36+	47+	45+			42+			
Cep XX S10																												41									
Cep XY E10S								52																39													
Cep ZZ S10											47			61												46		60									
Cep AI E10S 3											38			49s	60																				39s		51
Cep CW E10X								54+											46+															38+			
Cep EI L10			94s						16					38s			60							82s		4							26s				
Cep EX L10							48													91																	
Cep NN E10S									40s	42	45s	48	51s	54	57s	60																					
Cet RR RR																										61		59								56	
Cet TU E10S 2												90						29															47				
Cet TV L10 2																										82+										92+	
Cet XY E10S 2																			61																		
JD 593 ..		97	98	99																																	
JD 594 ..					0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26				27		

2021 Jul	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Com S 90		39						43										40										37						
CrB U S10								52					42																					
CrB RV 90 3		49	48	48	47	47	46	46	45	45	44	44	43	42	42	41	41	40	40	39	39	38	38	37	37	36	36							
Cyg UY RR					43	55							47	59					44	57					37	49	61		42	54				
Cyg XZ RR		60	53	46	40						60	53	46	40			60	53	47	40					60	53	47	40			60	53		
Cyg BO E10S						59s	47						49	37s								40s						54	42s					
Cyg BR E10S			49		49s		49		49s	48			48s		48		48s		48		48s			48		48s	48		47s	47				
Cyg DM RR		38		48		58	42		52			46		56	39		49		59	43			53	37		47	57	41		51		61		
Cyg V0367				\	\	33s	/	/					\	\	63	/						\	\	\	93s	/	/							
Cyg V0463												42	48s	54	60s															36	42s	48		
Cyg V0477							41s						42	48+	54	60s						50s						54s	36	42s	48			
Cyg V0541												11+															45+							
Cyg V0548		53s	43							56s		46							58s	49		39s						61s	51	41s				
Cyg V0788		15	11/																															
Cyg V0891					56		46																62		52		43							
Cyg V0909								42							44s							45						46s						
Cyg V1061 E10S			50							54							58						62											
Del DX 90 3						56	51	45	40					60	54	49	43	38					58	52	47	41	36			61		56		
Del NN L10 1																																		
Dra RW RR			57	45			55	44		54	43				53	41			51	40		61	50	39		60	49	37		59	47	36		
Dra SU RR		48		46		44		42		41	39		37										61		60		58		56		54			
Dra SW RR					45	59			44	58			43	57			42	56			40	54			39	53		38		52				
Dra TZ E10D			58	44			48s		51			54s	40s		57		43		60s	47s			50	36		53s	39s	56	43		59s			
Dra V000Z		38			59	55	51	48	44	40		61	58	54	50		47	43	39			60	56	53	49	45	42	38		59	55			
Dra WW S10								59															48											
Dra XZ RR 3					57	52	47	42	38						57	53	48	43	38							58	53	48	44	39				
Dra AI S10							50						49														48					47		
Dra BF L10							50			43s			49														48					47		
Dra BK 90		47			43			39	58		54				50				46			60			38	56		52			48			
Dra BU E10S														59	54s	50	46s	41	37s															
Dra DD 90				43				57				49			41				54				46		60		38			52				
Dra GV L10																								50										
Equ S S10																									52				40					
Gem RY L10 2																																		
Gem OW L10 2																																		
Her TW RR 3		55		55			55	55	54			54		54			54		54	53			53		53		53	53	53	53	52			
Her TX S10			38s	41	44s	47	50s	53	56s	59																								
Her UX E10D				44s						41				50			60	38s			47s				57s			44		54				
Her V000X		41				51	42		52		43				53		44				54	45					46	37				47		
JD 593 ..		97	98	99																														
JD 594 ..					0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		

2021 Jul	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
Her V000Z			50	38		58	46				55	43			51	39		59	47			56	44			52	40		60	48	36		56				
Her AK S10		41s	47	52s	58	42	47s	53	58s	42s	48	53s	37+	43	48s	54	38	43s	49	54s	38s	44	49s	54	39	44s	49	55s	39s	45	50s						
Her AR 90				55	49	43					60	54	48	42						59	53	47											34				
Her AW L10 3						94							74										54										34				
Her DI L10			47s	94									74	2s									54		57s								34				
Her GU E10U			51s												37	54s												40	57s								
Her LV L10 2			51s			58s									37	54s							38s					40	57s								
Her MM E10S			40s				38																														
Hya AI L10 2																																					
Lac RW L10			11s												47s									84s													
Lac SW S10		42+	39+	51	47	43+	40+	52s	48s	44+	40+	37+	49	45+	41+	38+	50s	46s	42+	38+	51	47	43+	39+	36+	48s	44+	40+	36+	49	45+	41+					
Lac UW E10S						62					91						20						49					78									
Lac CO E10X													42+			50+				59+												38+					
Lac CZ 90		44		60	47			49			52	38		54	41		57	43			59	46			48		51	37		53	40						
Lac V0345						43+									92+																	91+					
Lac V0364						43+									92+							41+									91+						
Lyr RR RR				43	56			40	53			37	50				47	60				44	57			40	54			37	50						
Lyr RZ 90		46	48	50	52	55	57	59														37	39	42	44	46	48	51	53	55	57	60		62			
Lyr UZ S10							58	52s	47	42s														60	55s	49	44s	38									
Lyr CN 90			53		59	41		47	52			58	40		46		52		57	40		45	51		57	39	45		45	50							
Lyr EZ RR							42	47	52	57							40	45	50	55	60						38	43	48	53	58						
Lyr IO 90		50			39	54			43	58			47				51				39	55				43	59		47			36		51			
Lyr beta S10 3						35s						82								29s					76									23s			
Mon UX E10S 2																																					
Mon V000V																																					
Mon AR L10 1																																					
Mon AV E10S 2																																					
Mon IL E10S 2																																					
Oph U ST			44					47					51											41s					44s								
Oph RZ L10 1																																					
Oph ST 90		43				48	38			54	44				49	39						44					50	40			45						
Ori Z E10S 2																																					
Ori BM E10S 3																																					
Ori CP E10S 2																																					
Ori DN L10 2																																					
Ori FO L10 2																																					
Ori V1016 L10																																					
Peg U S10		52		58s	51		58s	51		57s	51		57s	51	45s	57s	51	44s	57s	51	44s		57s	50	44s	56s	50	44s	56s	50	44+	56s		50			
Peg V000V							60	58	56	53	51	49	46	44	42	39	37													60	58	56	53		51		
JD 593 ..		97	98	99																																	
JD 594 ..					0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		27				

2021 Jul	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Peg V000W							60	58	56	53	51	49	46	44	42	39	37											60	58	56	53	51	
Peg AV RR		50		45	40		57		52	48		43	60	38	55		50	45				41	58	36	53		48	43	60	38	56		
Peg BW L10 2			10						41s				72					3s						34				65s					
Peg BH 90		59		52	44						57	49	49	41				54				46	39				59	51	44				
Peg BK E10S							48										46											44					
Peg CG 90			55	49	42						56	49	43				56	50	43	37				57	51	44	37				58		
Peg DF L10 3									85															55									
Peg DH RR			43	45	48		50	52	54	56	59	61		42	44		46	48	51	53	55	57	59	62	38	41	43	45	47	49	52	54	
Peg GH E10S 3					40s					52s								46						57				41s					
Per RW L10 2							20														40												
Per RY E10S 3					54s																								56				
Per AG E10X					54s																			53s		56s	59s	56	62s				
Per AR 90								58				56		54					52		50				48	61		59			56		
Per AY L10 3													47												24								
Per IQ E10X							60+							58+								55+						52+					
Per KN E10U			54s				57		60s				50				54s		57			60s				50		53s					
Per LX L10			96s				98			00s				2					4s				6				8s				9		
Per beta S10 3		56s										59												50s									
Psc RU 90 3		58		53							56	51						59	54			49	44	61		57	52		47				
Psc RY 90 2							58							53			59							53	59								
Psc SS 90 3		55	56				58	59				48	50				51	53				54	56	57			59	45	60	46	61		
Sge SY E10S 3								38															53						61		38s		
Ser V000Y					41						41											40				40				40			
Ser AN 90 3					41		46	50									37	42	46	51								38	43	47			
Ser BH 90 3			47				51	38			42		46				51	38			42				46		37			41			
Ser EG L10 3		97		46s			94		43s			92		40s			89		38s			86		35s		84		32s		81			
Ser LX K10 3		49	44	39+	50	45	41	51	46	42	52	47	43	38+	49	44	39	50	45	40	51	46	41	36	47	42	37	48	43	38	49	44	
Tau RW S10 3																									57								
Tau EN E10S																													62s				
Tri X S10 3					60		58	55	52																								
Tri RU E10S 2			53s													60s																	
UMa W S10		38	38	38	38	39	39	39	39	39	39	39	39	39	39	39	40	40	40	40	40	40	40	40	40	40	40	40	41	41	41	41	41
UMa RV RR				55	49	42					57	51	44	38													55	49	42	36			
UMa RW E10S							44																		44s				43				
UMa TU RR			42																				38										
UMi W S10			51											41								52			62							43	
Vir ST 90 2		41						40						38										37									
Vir AG E10D					38s																												
Vir AH S10							38s																										
JD 593 ..		97	98	99																													
JD 594 ..			0	1			2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	

2021 Jul			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Vir	AV	90																					38											
Vir	CG	E10S							46s	40s				41										43s						38			45	
Vul	Z	S10	3				45																					54						
Vul	BN	90	3	38	57			54			51			48			45			42	61	39	58		36	55				52		49		
Vul	DR	E10X						50+									51+								51+									
Vul	EV	E10S	3						51																	44								
JD	593	..		97	98	99																												
JD	594	..					0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2021 Aug			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
And	SW	RR	3			54	43		52	41		62	50	39		60	48	37	58	46	35		56	44	33	66	54	43	64	52	41			
And	SY	L10	1												12\	16	21\																	
And	TW	S10											38s		44	50s			57		63s													
And	XX	90		45		62			51			40		57		46			63	35	52		41		58			47	64	36				
And	CD	L10	2												85\	\	91s	/	98\															
And	OV	90		49	43	37			61	55	49	43	37			61	55	49	43	37					61	55	49	43	37	66	60			
Aqr	SW	RR		41			62	54	46	38		59	51	43	35			56	48	40					53	45	37		50	42	34	48		
Aqr	SX	90	3	48	56	63			38	45	52	59			34	41	48	56	63					38	45	52	59			34	41	48		
Aqr	CD	E10S	3		23				6				90					74					58				42					25		
Aqr	HH	90					53			55			42	57		45			59		47	62		49			36	51		38	53			
Aqr	LL	L10	2								89										98s										7			
Aql	AA	RR		44	52	61		42	50	59		40	48	57		38	46	55		36	44	53	34	42	51	32	40	49		38	47			
Aql	V0341				38	54			43	59		48			37	52			41	57					46		35	50		40				
Aql	V0889				38	54			43	59		48	50s		37	52			41	57					46	62s	35	50		40				
Aql	V1353	E10S		55			38		50s				45		58s			41s		53				36		48s		43	55s					
Aql	V1426	E10S		8+	26+	43s	2+	19+	37+	55	13+	31+	48s	7+	25+	42	1+	18+	36+	53s	12+	30+	47	6+	23+	41+	58s	17+	35+	52	11+	29+	46s	5+
Aql	V1430	E10S		58s	45s			51	38		57s	44s			50	37			43s		49	36			42s			48	35		41s			
Ari	X	RR	2	57										64		59			55		50					66		62	57		53			
Ari	RS	L10	2							53									33								14							
Ari	AL	E10S																										65						
Aur	TZ	90					60									61								61		57					66			
Aur	CQ	L10	2	14					45s					76						7s					38			70s						
Aur	IY	E10S																														61		
Aur	V0432											58s																53			61			
Aur	epsil	L10	2																															
Aur	zeta	L10	1																															
Boo	RS	RR		45			47		36			38		39			41			43					34			36		37				
Boo	TW	90							40	47					39		45								37	44						36		
JD	594	..		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58

2021 Aug	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Boo UU	90	37				48	39					42					45	36				39				41	33							
Boo UY	90	38															35																	
Boo AC	E10D	39s	45s	51s	39	45	50	38s	44s	50s	38	44	49	38s	43s	49s	37	43	49	37s	42s	48s	36	42	48	36s	42s	47s	35	41	47	35s		
Boo CM	90							38											34															
Boo CQ	90	3	42	39	36							41	38				36	33							38	35	32							
Boo CS	90			35																								36						
Cam SS	E10S	3	85s		26		67s			8		49s	91				32s	73				14s	55			96s	38				79s			
Cam SV	S10	38	57	46s	35	53	42s	61s	50	39s	57s	46	35s	54s	43	61	50s	39	58	47s	36	54	43s	32+	51	40s	59s	48	37+	55s	44	33+		
Cam AK	E10S						37s	49	60s								39	51s	62							41s	53	64s						
Cam AN	L10	3					37s	49	60s								39	51s	62							41s	53	64s						
Cam AT	E10S	42s	52	61s				40s	50			59s	38s				48	57s				36s	46			55s	64	34s				44		
Cnc S	L10																																	
Cnc RU	L10	2																											46					
Cnc RZ	L10	2															96\	\	58s	/	21\					78\	\	40	/			3\		
Cnc TU	E10S	3																																
Cnc TW	L10	2																																
Cnc UU	L10	2																																
Cnc ZZ	L10	2																																
CVn W	90				37	47					44						40					37				34								
CVn Z	90											42	38	35																				
CVn RZ	90	36											41				38					36				33								
Cas RX	L10	2		\	\		92		/	/									\	\			8s			/	/							
Cas SZ	S10	3	44					42	61								40	59				37	57			35	54							
Cas SX	L10	2																				63\	\	46	/	29\								
Cas TV	S10		46									52																	64				46	
Cas TW	S10				53			38								53		38								52		38						
Cas TX	E10S				62		54		47			40											64s				57s		50s					
Cas AQ	L10	2	82\	88	93\		68\	74s	79\			54\	60	65\					40\	46s	51\			26\		32	37\					12\		
Cas BM	L10	3																																
Cas DN	E10S				47		63s					41	56s						34	49s	65						43s	58						
Cas GG	E10S															46																		49
Cas GU	E10U																39			48			57											
Cas IL	E10S	3	36																								52							
Cas IT	E10X		36															64s	62			53s			43s	52		33s						
Cas OX	E10X		41+				39+					37+					35+					33+												
Cas PV	E10X		41+				56s	39+				37+	56s				35+		56s			33+				56s	32s							
Cas V0368							52s										65							33s		55								
Cas V0375			54s		49s			43s	64	38s		59	54					48				43		64s	38	59s	32	54s						
Cas V0381			54s		49s	49s		43s	64	38+		59	54				46s	48				43		64s	38+	59s	32	54s					42s	
JD 594	..	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58		

2021 Aug	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Cas V0459				49			78s				47				24s		46							69s	44								42
Cep RZ	90	50	43	35	59	51	44	37	60	53	45	38	61	54	47	39	63	55	48	40	33+	57	49	42	34+	58	50	43	36	59	52	44	
Cep V000W		40+	37+	48+	46+	43+	41+	38+	35+	47+	44+	41+	39+	36+	34+	45+	42+	40+	37+	35+	46+	43+	41+	38+	36+	33+	44+	42+	39+	37+	34+	31+	
Cep XX	S10			42						43							45							46								47	
Cep XY	E10S	49											59		36												46						
Cep ZZ	S10									45		60												45			59						
Cep AI	E10S	3	62s														41		52s			63											
Cep CW	E10X						56+										48+											40+					
Cep EI	L10		48				70s				92					14s			36					58s			80						
Cep EX	L10		35													78													22				
Cep NN	E10S											36	39s	42	45s	47	50s	53	56s	59	62s	65											
Cet RR	RR				54						52	63			50	60					47	58			45	56	66			43	53		
Cet RV	90																	65					64					63					
Cet TU	E10S	2	86				25					64					3				42			81					21				
Cet TV	L10	2									2+										13+								23+				
Cet XY	E10S	2										63									59s					54							
CrB U	S10																						40										
Cyg UY	RR	46	58			39	51	63			43	56			36	48	60			40	53	65	33	45	57			38	50	62			
Cyg XZ	RR	47	40				60	53	47	40				60	53	47	40	33			60	53	47	40	33		60	54	47	40		34	
Cyg BO	E10S			57	45s						59	47s	35				62	50s	37					64	52s	40						67	
Cyg BR	E10S	47s	47		47s		47		47s		46	47	47s		46		46s		46		46s	46	46s		46s		46	46s				45	
Cyg DM	RR	45	55	39			49	59	43			53	37	62	46		56	40		50	34	60	44		54	38	64	48	32	58	42		
Cyg V0367			23	/	/					\	\	53s	/	/						\	\	83	/	/				\	\		13s		
Cyg V0463			54s	60													36s	42	48s	54	60s												
Cyg V0477			54s	60	58s						62s						36s	42	48s	54	60s			35s					39s				
Cyg V0541											78+																12+						
Cyg V0548							54	44s	34								56	47s	37						59	49s	40						
Cyg V0788																	5\	96/															
Cyg V0891														58	49						39												
Cyg V0909				48								49s														52s							
Cyg V1061	E10S			35								39									43					47							
Del DX	90	3	50	45	39				59	54	48	43	37				62	57	52	46	41	35			60	55	49	44	39	33			
Del NN	L10	1																															
Dra RW	RR		57	46			56	44			54	43			53	42				63	52	40	62	50	39	60	49	38	59	48		36	
Dra SU	RR	52	50	48			46	45				43	41	39			37	35				33	65	64		62	60	58					
Dra SW	RR	37	51		36		49	63	34	48		62			47	61				46	60			45	58		43	57		42		56	
Dra TZ	E10D	46s	62	49	35		52s	38s		55		42		58s	45s		61	48	34	64s	51s	37s		54	41	57s	44s	60	47		33		
Dra V000Z		52	48	44	41	37	62	58	54	50		47	43	39	36	64	60	57	53	49	46	42	38	34	63	59	55	52	48	44	41	37	
Dra WW	S10				37										63													51					
JD 594	..	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	

2021 Aug	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Dra XZ	RR	3	63	59	54	49	44	40	35			64	59	54	50		45	40	36			65	60	55	50	46	41	36	32				
Dra AI	S10					47						46					45					45							44				
Dra BF	L10					47			45s			46					45					45							44				
Dra BK	90		44	63	40		59		36	55		51			47				43	61		39	57		35	54		50			46		
Dra BU	E10S				60s	56	51s	47	43s	38	34s																57s	53	48s	44	40s		
Dra DD	90		44			58	36			50		63	42				55	34			47			61	39		53			66	45		
Dra GV	L10																36																
Equ S	S10												58												45			32					
Eri SV	90	2																				58					58					58	
Gem RR	90								63																								
Gem RY	L10	2																	18s			83						49s					
Gem WW	E10S																								64s		59s						
Gem YY	S10															63s											62		66s				
Gem OW	L10	2																															
Her TW	RR	3	52		52	52		52		51		51	51	51	51		51		50			50	50	50	50	50	50	50	49			49	
Her TX	S10					37	40s	43	46s	49	52s	55	58s																				
Her UX	E10D			41s			51s			38			48						35s		45s				32		42						
Her V000X			38			48	39			49		40					41					41	33			42	33					43	
Her V000Z			44		53	41			49	37		57	45		53		42			50	38			46	34		42			51	39		
Her AK	S10		40	45s	50	35	40s	45	51s	35s	40	46s	51	36	41s	46	36s	41	47s	36		42s	47	32	37s	42	32s	37	43s		32		
Her AR	90			57	51	45	39					56	50	44	38					55	49	43	37					48	42	36			
Her AW	L10	3							15								95								75								
Her DI	L10			12s					15					67s			95								22s	75							
Her GU	E10U								43													46											
Her LV	L10	2							43			45s										46											
Hya AI	L10	2																															
Lac RW	L10			21s									58s												95s								
Lac SW	S10		37+	50s	46+	42+	38+	51	47+	43+	39+	35+	48+	44+	40+	36+	49	45+	41+	37+	33+	46+	42+	38+	34+	47+	43+	39+	35+	47+	44+	40+	36+
Lac UW	E10S		7				36						65						94						23			52					
Lac CO	E10X		47+		55+			63+							35+				43+			51+			60+								
Lac CZ	90		56	42		58	45	61	47	34	64	50	36	53	39		55	42		58		44	60	47	33		63	49	36	65	52	38	
Lac V0345						40+						89+															87+						
Lac V0364						40+						89+															87+						
Lyn CD	E10S	3				61s																							63				
Lyr RR	RR		47	61			44	57			41	54			38	51	64		35	48	61				45	58		42	55			38	
Lyr RZ	90											35	38	40	42	44	47	49	51	53	56	58	60										
Lyr UZ	S10								62	57s		51	46s	40	35s													59s	53	48s	43	37s	
Lyr CN	90		56	38	62	44	50		56	38	61	43	49			55	37		43	49			54	36		42		48		54	36		
Lyr EZ	RR					36	41	46	51	56	61					34	39	44	49	54	59					32	37	42	47	52	57		
JD 594	..		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58

2021 Aug	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Lyr IO 90			40	55			44	59				46		36	52			40	56			44			33	48		37	52				
Lyr beta S10 3							70							17s				64								11s							
Mon UX E10S 2																																	
Mon V000V																																	
Mon AR L10 1																																	
Mon AV E10S 2																																	
Mon IL E10S 2																																	
Oph U ST			47s											38					41														
Oph RZ L10 1																																	
Oph ST 90			41				46	36				41					37								37					33			
Ori Z E10S 2							52					72										13					33						
Ori BM E10S 3																							45					92					
Ori CP E10S 2			4					36					68						0				32					64					
Ori DN L10 2																						36											
Ori FO L10 2												68																		48			
Ori FT E10X												68																		48			
Ori V0536																									65								
Ori V1016 L10																																	
Peg U S10		43+	56s	50	43+	56s	49	43+	56s	49	43+	37+	49	43+	36+	49	43+	36+	49	42+	36+	49	42+	36+	48	42+	36+	48	42+	36+	48+	42+	
Peg V000V		49	47	44	42	40	37	35									63	61	58	56	54	51	49	47	44	42	40	37	35	33			
Peg V000W		49	47	44	42	40	37	35									63	61	58	56	54	51	49	47	44	42	40	37	35	33			
Peg AV RR			51		46	63	41	58	36	53		49		44	61	39	56	34	51		46		64	42	59	37	54	32	49	66	44	61	39
Peg AW L10 2				97						28s					59																52s		
Peg BH 90		36			57		49		41			62		54	46			39		59			51		44		36	64		56		49	
Peg BK E10S									42																			63s		38			
Peg CG 90		51	45	38			59	52	45	39				59	53		46	40	33			60	53	47	40	34		61	54	48	41		
Peg DF L10 3								25															95										
Peg DH RR		56	58	35+	37+	39	41	44	46	48	50	52	55	57	34+	36+	38+	40	42	45	47	49	51	53	56	32+	34+	37+	39+	41	43	45	
Peg GH E10S 3		52s			36		63s			47																53s			36	64s			
Per RW L10 2			60												80															0			
Per RY E10S 3					42																		58s							45s			
Per AG E10X					42																		58s							45s			
Per AR 90				54			52			50		63	48		61	46			59	44		57	42		54	40	52		65	50		63	
Per AY L10 3					2												80												57				
Per IQ E10X					50+							47+							45+							42+				65+			
Per KN E10U		57			60s	47s		63	50			53s		56	43			60s	46s		63	49	66s	53s	39s		56	43		59s	46s		
Per LX L10					11s				13				15s					17				19s			21				23s				
Per beta S10 3				53										57s										60			47						
Psc RU 90 3		42	59		54		50		45	62	40	57		52	48			43	60	38	55			50		45	63	41	58	36	53	48	
JD 594 ..		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	

2021 Aug			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Psc	RY	90	2	48	54	60							48	54	60						43	49	55	61					43	49	55	61	67		
Psc	SS	90	3	48	63	49		51		52		54		55	41	57	43	58	44	59	46	61	47	62	49	64	50	65	52	38	53	39	54	41	
Sge	SY	E10S	3							46s						54s										39							47		
Ser	V000Y						40					40																							
Ser	AN	90	3								35	39	43										35	40											32
Ser	BH	90	3		45				36			41							36			40							35						
Ser	EG	L10	3			30s	78				27s		76			24s		73			22s		70			19s		68			17s		65		
Ser	LX	K10	3	39		45	40	35	46	41	36		42	37		43	38		44	39	34		40	35		41	36		37	32		38		33	
Tau	RW	S10	3																							56									
Tau	CD	S10	3														62s												64						
Tau	EN	E10S												63					59								64s				60s				
Tri	X	S10	3								61	58	55	52	49	47	44	41																	
Tri	RU	E10S	2							48s													55s				45						35s		
UMa	W	S10		41	41									59s	59s	59s	59s	59s	59s	59s	59s	59s	59s	60s	60s	60s	60s	60s	60s	60s	60s	60s	60s	60s	
UMa	RV	RR			51	44	38					53	46	40	34					48	42	36					44	38							
UMa	RW	E10S								42s																									
UMi	W	S10					53						63						44						54				64		35				
Vir	CG	E10S					39s									34							36s												
Vul	Z	S10	3				36																		54				45						
Vul	RR	E10S	3							37						42					47					52				57					
Vul	BN	90	3		46		43		62		40	59		37	56		34	53			50				47		44		41		38		57		
Vul	DR	E10X		51+									52+								52+								52+						
Vul	EV	E10S	3							55			38													49									
JD	594	..		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	
2021 Spt			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
And	SW	RR	3		62	50	39		60	48	37		58	46	35	67	56	44	33	65	54	42	31	63	52	40	29	61	50	38	27+	59	48		
And	SY	L10	1																		3\	7	12\												
And	TW	S10												30	36s		42		49s		55			61s		67									
And	XX	90			53		42			59	31		48		65	37		54			43		60	32		49		66	38		55	27	72		
And	CD	L10	2																		29\	\	35	/	42\										
And	OV	90		55	49	43	37	31		66	60	55	49	43	37	31		66	60	55	49	43	37	31	66	60	55	49	43	37	31	72			
Aqr	SW	RR			56	47	39	31			53	45	36				50	42	34				47	39	31				44	36	28				
Aqr	SX	90	3	56				31	38	45	52				34	41	48		56				31	38	45	52				27	34	41	48		
Aqr	CD	E10S	3				9					93				77						60				44						28			
Aqr	HH	90			40	55				42	57			45			32	47			34	49				36	51		38	53				40	
Aqr	LL	L10	2									15s										24										33s			
JD	594	..		59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	

2021 Spt	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Aql AA RR				36	45		34	43				32	41	49	30		39	47	28	36		45		34	43			32	41					
Aql V0341		44		33	49			38					42		31		47		36				41			30	45			34				
Aql V0889		44	74s	33	49			38					42	86s	31		47		36				41	98s		30	45			34				
Aql V1353 E10S			38s	50			33	46s					29s	41					36s			48		31		43s		26s						
Aql V1426 E10S		22+	40+	57	16+	34+	51s	10+	27+	45	4+	21+	39+	56s	15+	33+	50	9+	26+	44s	3+	20+	38+	55	14+	31+	49s	8+	25+	43	1+			
Aql V1430 E10S			47	34			40s		46	33			39s				45	32		38s			44	31			37s			43				
Ari X RR 2			48					64				59	55	50				46		41			66	62			57	53		48				
Ari RS L10 2				94									74										54							35				
Ari AL E10S												64															63			37				
Aur TZ 90		62		58		54		67		63			59		55		51	68		64		60		56		52		69	47	65		61		
Aur CQ L10 2			1					32s					63					94s						25						56s				
Aur IY E10S													58															55						
Aur V0432													48s					56s		64s											43			
Aur epsil L10 2																																		
Aur zeta L10 1																																		
Boo RS RR		39					30		32			34		36									28			30		32						
Boo TW 90		42						34	41								32	39						31	37									
Boo UU 90		44	35					38				40	32						34					37	29					31				
Boo AC E10D		41s	46s	35	40	46	34s	40s	46s	34	39		33s	39s	33		39		32s	38s		32	38		32s	37s		31	37		31s			
Boo CM 90													31											28										
Boo CQ 90 3							34		32			29											28											
Boo CS 90			34					32					30						28															
Cam SS E10S 3			20		61s			2		44s			85		26s				67		8s			49	91s			32		73s				
Cam SV S10		52s	41	59	48s	37+	56	45s	34+	52	41s	30+	49	38+	56s	45	34+	53s	42	31+	49s	38+	27+	46s	35+	54	43s	32+	50	39+	28+			
Cam AK E10S				32s	43		55s	66						34	45s		57	68s							36s	48	59s	70						
Cam AN L10 3				32s	43		55s	66						34	45s		57	68s							36s	48	59s	70						
Cam AT E10S			53s	62	32s		42		51s			60	30s	40			49s	58	28s	68s		38		47s	56		66s	35		45s				
Cnc S L10					28									76											25									
Cnc RU L10 2								64											81											98				
Cnc RW 90																	64						66					59	68					
Cnc RZ L10 2							60\	\	23s	85\									42\	\	5	67\						25\	87s					
Cnc TT 90												68													64					71				
Cnc TU E10S 3					58							15											27					83						
Cnc TW L10 2																																		
Cnc UU L10 2																			\	\										17s				
Cnc ZZ L10 2																							27\	29	31\									
Cnc AQ 90													69												66						69			
CVn W 90							37					34																						
CVn Z 90		35		31																														
JD 594 ..		59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89		

2021 Spt	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
CVn RS S10 3							30s											29																		
CVn RZ 90																	32				29															
Cas RX L10 2						\					25		/	/											41s			/	/							
Cas RZ S10 3	32	52						30	50						47	67					45	64					42	62								
Cas SX L10 2																											20\	\	3	86/						
Cas TV S10										52		33						58	40								65	46								
Cas TW S10	67				52			38				66		52			38					66			52		38									
Cas TX E10S	42s				35s							67		59			52				45				37		30				69s					
Cas AQ L10 2	18s	23/				98\		\	4	9/		85\	90s	95/			71\	76	81/						57\	62s	67/			43\	48					
Cas BM L10 3																																				
Cas DN E10S					36s	52	67s					45	60s					38	54s	69					31	47s	63									
Cas GG E10S															53			29													56					
Cas GU E10U																	32			41					51		60			69						
Cas IL E10S 3		42								33																	59									
Cas IT E10X		42								33																	59				50s					
Cas OX E10X																									69+						67+					
Cas PV E10X					57s	32s					57s	32s						57s	32s						69+	57s	32s			67+						
Cas V0368					46		68s					36		58s											49s		71									
Cas V0375	48s				43s		64	38s	59	32s		53		48			69s	43	64s		37			58s	32		53s	27		48s						
Cas V0381	48s				43s	66s	64	38+	59	32s		53+		39s	48		69s	43	63s	64s	37+			58s	32		53+	27	36s	48s						
Cas V0459	15s				66		41	61s				64	39					7s	63						37		61+	36								
Cep RZ 90	37	60	53	46	38		31+	54	47	40	32+	56	48	41	33+	57	49	42	35+	58	51	43	36+	29+	52	45	37+	30+	53	46	39+					
Cep V000W	43+	40+	38+	35+	32+		30+	41+	38+	36+	33+	31+	42+	39+	37+	34+	32+	29+	40+	38+	35+	33+	30+	27+	39+	36+	34+	31+	28+	26+	37+					
Cep XX S10												48				49					51															
Cep XY E10S							56			33											66															
Cep ZZ S10							30		44	58														29	43	57										
Cep AI E10S 3				31	42s			53		65s															32s	43	55s	66								
Cep CW E10X									31+								50+									69+		42+								
Cep EI L10	2s				24					46s					68				90s						12		34s				56					
Cep EX L10												65														9										
Cep NN E10S													29	32s	35		38s	41	44s	47	49s	52	55s	58	61s	64	67s	70								
Cet RR RR 64					51		62			49		59			47		57	68			44		55	66		42	53	63			40					
Cet RV 90		61						60					59					58						56			55									
Cet TU E10S 2		60										38			77						16				55					94						
Cet TV L10 2																																				
Cet XY E10S 2		49s					66								61s						56							52s								
Com S 90																																	72			
CrB RV 90 3													43	43	42	42	41	41	40	40	39	39	38	37	37	36	36	35	35	34	34					
Cyg UY RR		42	54				35	47	59			39	52		32		44	56			37	49			29	41	53			34	46					
JD 594 ..		59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89				

2021 Spt	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Cyg XZ RR		67	60	54	47		40	34		67	60	54	47	40	34		67	60	54	47	40	34	27	67	60	54	47	40	34	27					
Cyg BO E10S		55s	42							57s	45	33s				60s	47	35s					62s	50	38s				65s	52					
Cyg BR E10S			45s	45			45s	45	45s				45	45s			45	44s	44				44s	44			44s	44	44s						
Cyg DM RR		52	36	62	46	30	56	40	66	50	34	60	43		53	37	63	47	31	57	41		51	35	61	45	29	55	39	49					
Cyg V0367		/					\	\	43	/	/					\	\	73s	/	/				\	\		2	/	/						
Cyg V0463			36	42s	48		54s														30	36s	42	48s	54										
Cyg V0477			36	42s	48+		54s					48s									52s	30	36s	42	48s	54	56s								
Cyg V0541											46+															80+									
Cyg V0548			62	52s	42		32s					64	55s	45	35s								67	57s	47	38s	28								
Cyg V0788																																			
Cyg V0891			54		45		36																	51			41		32						
Cyg V0909		53			34				55s			35s						37							38s										
Cyg V1061 E10S		51							55							59													32		67				
Del DX 90 3			58	53	47		42	37	31				56	51	45	40	34	29					49	43	38	32	27								
Del NN L10 1		65																																	
Dra RW RR		58	46	35			56	45	33	55		43	32	54	42		31	52	41	29			51	39	28		49	38	27		48				
Dra SU RR		56	54		52			50	49			47	45	43			41	41	39				37	69	35	68	34	66	32	64	30	62			
Dra SW RR			41	55				40	54	67		38	52	66	37		51	65		36	50		64		35	49	63		33	47	61				
Dra TZ E10D			50s	37s	53		40		56s	43s		59	46	32	49s		36s		52	39			55s	42s	28s	45	32	48s	35s						
Dra V000Z		33	62	58	54	51	47	43	39	36	32	60	57	53	49	46	42	38	35	31			56	52	48	45	41	37	33	30	26	54			
Dra WW S10												40																							29
Dra XZ RR 3		65	60	56	51	46	42	37	32			66	61	56	52	47	42	38	33	28			66	62	57	52	48	43	38	34	29	72			
Dra AI S10					44						43						43							42											41
Dra BF L10					44+						43						43						30s	42											41
Dra BK 90		64		42	60		38	56		34	52		30	48	67		44	63		40	59			36	55		32	51	69	28	47	65			
Dra BU E10S		35	31s																				45s	41	37s	32	28s								
Dra DD 90				58	37			50			64	42			56	34		70	48				62	40		54	32	67	46						
Dra GV L10										21																									
Equ S S10																																			
Eri SV 90 2						57					57												71			56									56
Gem RR 90		66		65			64	62		61		60		58			57		55	54				53		51	71	50	69		68				
Gem RY L10 2		14				79s				44						9s				74					39s									4	
Gem WW E10S		64					59				54			64s						59s			68		54s			63	49s						
Gem YY S10				58			62s	65								57s	61		64s				68		53s		57	60s	64						
Gem OW L10 2																																			
Her TW RR 3		49		49			49	48		48		44	48	48			48	28	47		47		47	27	47	27		27		26					
Her TX S10								32	35s	38	41s	44	47s	50																					
Her UX E10D				39s						36									33s		43s							40							
Her V000X		34					35					36					37	28					38	29				30							
JD 594 ..		59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88			89	

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Her V000Z				47	35			43	31			39		48	36			44	32			40	28			37		45	33				
Her AK S10		38s	43		33s	38	44s		33	39s			34s	39		29s	34	40s		29	35s	40		30s	35		30	36s					
Her AR 90					47		41	35					46	40	34		28					45	39	33	27			44	38				
Her AW L10 3				55								35										15						95					
Her DI L10				55+								35		32s								15		87s				95					
Her GU E10U		32s												35s													37s						
Her LV L10 2		32s												35s			32s										37s						
Hya AI L10 2								29+									58+							87+									
Lac RW L10			32s									69s											6s										
Lac SW S10		32+	45+	41+	37+	33+	45+	42+	38+	34+	30+	43+	39+	35+	31+	43+	40+	36+	32+	28+	41+	37+	33+	29+	41+	38+	34+	30+	26+	39+	35+		
Lac UW E10S		81					10					39					68					97						26					
Lac CO E10X		31+		39+			48+		56+			65+										36+		44+			53+		61+				
Lac CZ 90			54	41	57	43	30	59	46	32	62	48	35	64	51	37	67	53	40	69		56	42	29	58	45	31	61	47	34	64		
Lac V0345				37+					86+									35+										84+					
Lac V0364				37+				59s	86+									35+						29s	84+								
Leo RR RR																	70						67					65					
Leo WY E10S																						70					69						
Lyn TY E10S 3																																	
Lyn CD E10S 3												55s											65s							48			
Lyr RR RR		52		35	49	62	32	45	59			29	42	55			39	52				36	49		33	46		29	43				
Lyr RZ 90		32	34	36	38	41	43	45	47	50	52	54			56	50s	45	39s	34	28s			28	30	32	34	37	39	41	43	46		
Lyr UZ S10		32												56	50s		45	39s	34	28s													
Lyr CN 90		42		47	53	35	35	41	47	47	29	52	35	40			46	28		34		40		45	28		33	39					
Lyr EZ RR					35		40	45	50	55				33		38	43	48	53							31	36	41	46				
Lyr IO 90			41		30	45			34	49				38			42				30	45		34	49			38					
Lyr beta S10 3		58					5s							52								99s					46						
Mon UX E10S 2													25s			20		16s					11		6s			1		96s			
Mon V000V			71		73s		76					79s		81			84s						89s				91		94s				
Mon AQ E10S 2																								70s									
Mon AR L10 1												81	77/									68/	53	38/									
Mon AT E10S 2																							65	68		71							
Mon AV E10S 2							94					42s		89				36s				84			31s			78					
Mon EZ E10U 2						68										65s		66s					67s		68s	62	69s	63					
Mon IL E10S 2							79					81				84		86						89				92					
Mon V0448												65s					69					60s					64						
Mon V0530					68					67s				61	66										60	65	70		59s	64s			
Mon V0536																	64+																
Mon V0634																										68							
Oph U ST				34s						37s															31								
JD 594 ..		59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	

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Ser	EG	L10	3		14s	63				11s	60				9s	57				6s	55				3s	52				1s	49				
Ser	LX	K10	3		39	34			35	30		36	31		32				33	28		34	29		30				31	27			28		
Tau	RW	S10	3		64														48											56					
Tau	CD	S10	3							66s					53s							68								56					
Tau	EN	E10S			55s				65	51s				61					56			66s		52		62s			48		57s				
Tri	X	S10	3									67	64	61	58	55	53	50	47	44	41	38	36	33	30								40		
Tri	RU	E10S	2		62s					52					43s		69s			33			60			50s									
UMa	W	S10		61s	61s	61s	61s	61s	61s	61s	61s	61s	61s	61s	62s	62s	62s	62s	29+	29+	62s	62s	62s	62s	62s	63s	63s	63s	46+	46+	46+	46+	46+		
UMa	RV	RR		46	40	34						42	36	29						38	31					40	33		27	67					
UMa	RW	E10S																												72s					
UMi	W	S10			45					55					66	36						46				56				27			67		
Vir	CG	E10S				32s																													
Vul	Z	S10	3	36																					46					37					
Vul	RR	E10S	3		62																														
Vul	BN	90	3		36	54		33	51		30	48			46		43					40		37		34				31	50		28		
Vul	DR	E10X							53+									53+							28+	54+				35					
Vul	EV	E10S	3									42														53									
JD	594	..		59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88		89
2021 Okt			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
And	SW	RR	3	36	69	58	46	34	67	56	44	32	65	54	42	31	63	52	40	29	61	50	38	27	59	48	36	25	57	46	34	23	55		44
And	SY	L10	1																						93l	98	/	3/							
And	TW	S10													28				35s		41		47s		53		59s								
And	XX	90		44		61	33		50		67	39		56	28	73	45		62	34		51	23	68	40	57	29		46		63	35			
And	CD	L10	2																						73l	\	80s	/	86/						
And	OV	90		66	60	55	49	43	37	31	25+	66	60	55	49	43	37	31	25	66	60	55	49	43	37	31	25	66	60	55	49	43	37	31	
Aqr	SW	RR			41	33	25			46	38	30			43	35	27					40	32	24			38	29							
Aqr	SX	90	3				31		38	45				27	34	41					23	31	38	45				27	34	41					
Aqr	CD	E10S	3			12				96					79					63					47				31						
Aqr	HH	90			27	42				30	44			32	47		34					36			23	38		25	40			27		42	
Aqr	LL	L10	2								42											51s								60					
Aql	AA	RR			30	39			28	37		26		35		24	33					31	39		29	37			27	35				25	
Aql	V0341					39				28	43			32			37					26			31				35		24				
Aql	V0889					39			11s	28	43			32			37			23s	26				31				35	35s	24				
Aql	V1353	E10S		39					34s					29		41s			24s		36				32s				27						
Aql	V1426	E10S		19+	37+	54s	13+	30+	48	7+	24+	42s	59s	18+	35+	53	12+	29+	47s	5+	23+	40+	58	17+	34+	52s	11+	28+	46	4+	22+	39+	57s	16+	
Aql	V1430	E10S		30		36s					29			35s		28					34s			27		33s				26					
JD	594	..		89	90	91	92	93	94	95	96	97	98	99																					
JD	595	..												0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		19	

2021 Okt	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Ari X RR 2		43	39	69			64	59				55	50	46			41	71	36	66		62	57			53	48	43							
Ari RS L10 2									15								95									76									
Ari AL E10S												62		36													61			35					
Aur TZ 90		57	52	70			48	66	44	62		57	53	71	49		67	45	62	41	58		54	72	50	67	46	63	42	59	37	55			
Aur CQ L10 2			87								19s			50												81s	12					43s			
Aur IY E10S								72				51											69		48										
Aur V0432		51					59		67								38s		46s				54s				62s		70s						
Aur epsilon L10 2																																			
Aur zeta L10 1																																			
Boo RS RR										26			28													73	24	75							
Boo TW 90		29									28						73	26							71	25									
Boo UU 90			34	25							28			30									24				27						75		
Boo AC E10D	36s	30	36				30s	36s	29	35			29s	35s	29		34+	75	28s	34+	75s		28	33+	74	27s	68s	74s	27	68	74	26s	67s		
Boo CQ 90 3			25																																
Cam SS E10S 3		14	55s				97		38s			79		20s			61		2s				44	85s			26	67s					8		
Cam SV S10	47	36+	54s	43+	32+		51s	40+	29+	47s	36+	25+	44+	33+	51	40+	29+	48	37+	26+	45+	33+	52s	41+	30+	49s	38+	27+	45+	34+	23+	42+			
Cam AK E10S		27s	38	50s			61	72s					29	40s	52		63s	74							31s	42	54s	65	76s						
Cam AN L10 3		27s	38	50s			61	72s					29	40s	52		63s	74							31s	42	54s	65	76s						
Cam AT E10S		54	64s	33			73	43s	52			62s	31	71	41s		50	60s	29	69		39s	48	57s		27	67	37s	76s	46					
Cnc S L10		73											22										70												
Cnc RU L10 2								16												33									50						
Cnc RW 90		61	70						63	72				55	65		74					57	67				59	68					51		
Cnc RZ L10 2		49/							7/			69	/	31/								89\	\	51s	/	13/							71\		
Cnc TT 90		66					60	73					67				62	74					69			63	76		58	70					
Cnc TU E10S 3		39						95						51												8							20		
Cnc TW L10 2																																			
Cnc UU L10 2											/																								
Cnc ZZ L10 2																																			
Cnc AQ 90				63			72					66					60	69						63	73			57	66	76					
CVn W 90		30						27					24					75						72			68	24							
CVn Z 90			69				65		27										73				69	65	62										
CVn RS S10 3														68s													67								
CVn RZ 90										72											23							74					71		
CMA R S10 3												73		71s							68				66s		63						61s		
CMi AM E10S		60	62				64	66	68	70	72	73																							
Cas RX L10 2							\	\				58	/	/										\	\		74s	/	/						
Cas RZ S10 3		40	60					38	57					35	55		74										31	50	70						
Cas SX L10 2																																			
Cas TV S10	27						71	52	33								58	40									65	46	27						
JD 594 ..		89	90	91	92	93	94	95	96	97	98	99																							
JD 595 ..													0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			

2021 Okt	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Cas TW	S10	66			52			37				66			52		37			23	66			51			37			23	66			
Cas TX	E10S			62s			55s		47s				40s		33s			25s	72		64			57			50			42				
Cas AQ	L10 2	54/				29\	34s	40/				15\	20	26/			1\	6s	12/		87\	92	98/				73\	78s	84/					
Cas BM	L10 3																		80															
Cas DN	E10S			40s	56	71s					34s	49	65s				27s	42	58s	74					36	51s	67							
Cas GG	E10S			32										60				36											63					
Cas GU	E10U																	25			35			44			53			63				
Cas IL	E10S 3			49							39							30			75						65							
Cas IT	E10X			49+				29s			39							30			75						65			67s				
Cas OX	E10X			65+				62+						60+					58+					56+				54+						
Cas PV	E10X	57s	65+					62+		33s			60+	58s			33s	58+					58s	56+	33s			54+	58s			33s		
Cas V0368				39s	62								29s	52									42	65s										
Cas V0375		69	42s	63	37s		58	32s	53			26s	74s	47	68s	42	63s	37			58s	31	52s	26		73	47s	68	42s					
Cas V0381		69	42s	60s	63	37+	58	32s	53+			26s	74+	47	68s	42	56s	63s	37+		58s	31	52+	26		73+	47s	68	42s			53s		
Cas V0459			60	99s	34					58			33	44s			56	31			90s		55			29		36s	53					
Cep RZ	90	31+	55	47	40+	32+	25+	49	41+	34+	26+	50	42+	35+	28+	51	44	36+	29+	52	45	38+	30+	23+	46	39+	32+	24+	48	40+	33+	25+		
Cep V000W		35+	32+	29+	27+	38+	35+	33+	30+	28+	25+	36+	34+	31+	29+	26+	37+	35+	32+	30+	27+	24+	36+	33+	31+	28+	25+	23+	34+	31+	29+	26+		
Cep XX	S10			53								54							55					23	57					24				
Cep XY	E10S	53		30								63		40									72			50			27					
Cep ZZ	S10						28	42	57			71										28	42	56			70							
Cep AI	E10S 3										34	45s	56				67s											24		35s				
Cep CW	E10X				61+			34+									52+		25+					71+			44+							
Cep EI	L10			78s				0					22s				44					66s		88					10s					
Cep EX	L10							52														95												
Cep NN	E10S																25s	28	31s	34		37s	40	43s	46	49s	51	54s	57	60s	63	66s		
Cet RR	RR	50	61		37		48	59		35		46	56		33		44	54		31		41	52		28		39	50		26	37			
Cet RV	90		54					52					51					50					49					47						
Cet TU	E10S 2			34				73					12				51			90					29				68					
Cet TV	L10 2			64+									75+										85+							95+				
Cet XY	E10S 2	69		47								42s		59						37				54s					49					
Com S	90								69								73		67								71		64					
Com ST	90 3																										76		76					
CrB U	S10					28																												
CrB RV	90 3	33	33	32	32	31	31	30	29	29	28	28	27	27	26	26	25	25	24	24	23	23												
Cyg UY	RR		26	38	50			31	43	55				35	48								33	45			25	37	49				30	
Cyg XZ	RR	60	54	47	40	34	27	60	54	47	40	34	27	61			54	47	41	34	27			54	47	41	34	27		54	47	41	47	
Cyg BO	E10S	40s	28					55	43s	31							33						60	48s	36	23s				50s	38		26s	
Cyg BR	E10S		44	44s			43	43s	43				43s	43	43s			43s	43	43s				42	42s		42	42s		42				
Cyg DM	RR	33	59	43	27	53	37	47	31	57	41	24	50	34			44	28	54	38			48	32		42	26	52	36	46	30			
JD 594	..	89	90	91	92	93	94	95	96	97	98	99																						
JD 595	..											0	1	2	3		4	5	6	7	8		9	10	11	12	13	14	15	16	17	18	19	

2021 Okt	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Cyg V0367				\	\		32s	/	/				\	\	62	/	/					\	\	92s	/	/									
Cyg V0463								30s	36	42s	48													24s	30	36s	42								
Cyg V0477								30+	36	42s	48				33s								37s		24s	30	36s	42	42s						
Cyg V0541											14+															47+									
Cyg V0548		60s	50	40s	31						62s	53	43s	33						55		46s	36	26s				58	48s	38					
Cyg V0788				89	85	81/																													
Cyg V0891														47			38	28																	
Cyg V0909			39						41s								42						43s		24s										
Cyg V1061 E10S					36						40						44							48											
Del DX 90 3	47	41	36	30	25					45	39	34	28															41	35	30	24				
Del NN L10 1																																			
Dra RW RR	37			47	35			45	34			44	32				43	31+		41		30+		40	28+			38	27+						
Dra SU RR	28	60	26	58			56	54	53			51	49				47	45	43			75	41	73	39	72	38	70	36	68	34	66			
Dra SW RR	32	46	60	31			45	59	73	30	44	58	72	29	42	56	70	27	41	55	69		26	40	54	68	25	39	53	67	24	38	51		
Dra TZ E10D	51	38		41s			27s	44	31			47s	34s	50	37			40s	27s			43	30	46s	33s			36	22				39s		
Dra V000Z	51	47	43	40+	36+		32	29	25	53	50	46	42+	38+	35+	31	27	24	48	45		41+	37+	34+	30	26	22	47	43+	40+	36+				
Dra WW S10				55														44									70								
Dra XZ RR 3	67	62	58	53	48		44	39	34	29	25+	68	63	58	54	49	44	40	35	30	25+		68	64	59	54	50	45	40	35	31	26+	69		
Dra AI S10				41							40						40						39						38						
Dra BF L10		51s	41							40			72s				40		33s				39						38	54s					
Dra BK 90		43	61	39			57	35	53	72	31	49	68	27	45		64	23	41	60		38	56	74	34	52	70	30	48	66	26	44			
Dra BU E10S								72	68s	64					42s	38	34s	29	25s										74s	69			65s		
Dra DD 90		59	38	73			51	30	65	43			57	35			70	49	27	62		41		54	33		68	46	25			60			
Dra GV L10			7																								92								
Equ S S10													43									30													
Eri SV 90 2					55					55						55						54			54			40	54						
Gem RR 90	67		65	64			63	61			60	59	57				56	75	55	74		53	72	52	71	50	70	49	68	48	67	46			
Gem RY L10 2			69s					34				99s					64						29s				94						59s		
Gem WW E10S		58		68s			54		63s			49	73	58s			44	68	53s				63	48s		72s	58	44s	67s						
Gem YY S10		67s	49s	71	52		56s	59			63s	67	48	70s			52s	74	55	59s			62	44	66s	47s	69	51	73s	54s	58				
Gem OW L10 2																																			
Her TW RR 3	26		26	26			26	25			25	25	25				25	24				24	24	24			24	23					23		
Her TX S10								25s	28		31s	34	37s	40	43s																				
Her UX E10D		27s		37s							34							31s							28										
Her V000X		31					32					24						25					25					26							
Her V000Z			41	29			37	25			34			30				38	26			35	23				31			27					
Her AK S10		31s	36	26s	31			26	31s			27s	32				27	32s		27s				28			23	23	28s					23s	
Her AR 90		32	26					37	31	25							36	30	24					35	29+	23									
Her AW L10 3								75									55										35								
JD 594 ..	89	90	91	92	93	94	95	96	97	98	99																								
JD 595 ..												0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				

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Mon V0634												59	71																			62		
Oph U ST														28s																				
Oph RZ L10 1				62			/	86/																										
Oph ST 90	30						26							26															22					
Ori Z E10S 2		75					96					16					36					57						77						
Ori BM E10S 3	27						74						21														15							
Ori CP E10S 2				89						21						53												17					49	
Ori DN L10 2												23														19								
Ori FO L10 2							8																			88								
Ori FT E10X							8										52s		68s							88								
Ori GG E10X																	52	65s	68															
Ori V0536																	59		75															
Ori V1016 L10														68																				
Ori V1031 E10S 2				60						71s													63											
Peg U S10		34+	27+	40+	33+	27+	40+	33+	27+	39+	33+	27+	39+	33+	27+	39+	33+	26+	39+	33+	26+	39+	32+	26+	38+	32+	26+	38+	32+	26+	38+	32+		
Peg V000V		54	51	49	47	44	42	40	37	35	33	30	28	26	24								51	49	47	44	42	40	38	35		33		
Peg V000W		54	51	49	47	44	42	40	37	35	33	30	28	26	24								51	49	47	44	42	40	38	35		33		
Peg AV RR			41	58	36	53	31	48	26	43		38	56	34	51	29	46	24	41		36	53	31	49	27	44	22	39		34		29		
Peg AW L10 2	39s						70						1s				32						63s				95							
Peg BH 90		26	54		46		38		31	59		51		43	36		28	56		49			41		33		25	54		46		38		
Peg BK E10S			32								55s		30									53s			28									
Peg CG 90			58	51	45		38	31	25			52	45	39	32	26		53	46	39		33	26				47	40	34	27				
Peg DF L10 3					4														74															
Peg DH RR		37	39	42	44	46	48	25+	27+	29	31	34	36	38	40	42	45	47	23+	26	28	30	32	34	37	39	41	43	46	22+	24		27	
Peg GH E10S 3					42s						26	54s				37							32s					43s					26	
Per RW L10 2							59															79												
Per RY E10S 3										63s							49s						35s									22s		
Per AG E10X		51s	54s		57s		59s	63+			65s	68s	71s	49s	74s								35s									22s		
Per AR 90		69	55	40	67	52	38	65	50	35	63	48	33	61	46	31+	59	44	29+	57	42	27+	55	40	25+	53	38	23+	50	36	63	48		
Per AY L10 3		90													68												46							
Per IQ E10X				52+			27+					50+	24+				73+	47+					70+	45+							68+			
Per KN E10U		65s	52s	38s	68	55	42	28+	58s	45s	32s	62	48	35	65s	51s	38s	25+	55	41	28+	58s	45s	31+	61	48	35	65s	51s	38s	24+	54		
Per LX L10				40					42s			44			46s					48			50s				51						53s	
Per beta S10 3		31s				61			48			35			65s					52s		39s		25s	69			55				42		
Psc RU 90 3		32+	49	27+	44	62	40	57	35	52	30+	47	25+	42	59	38	55	33	50	28+	45	23+	40	57	35	53	31	48	26+	43	60	38		
Psc RY 90 2		39	45	51	57			28	34	40		46	52					29	34	40	46	52					29	35	41	47				
Psc SS 90 3		49	35+	50	37+	52	38+	53	40+	26+	41+	27+	43	29+	44	30+	46	32+	47	33+	48	35+	50	36+	23+	38+	24+	39	25+	41	27+	42		
Sge SY E10S 3		32							40										25s					32s									40s	
Ser AN 90 3				25	30												26											22						
JD 594 ..		89	90	91	92	93	94	95	96	97	98	99																						
JD 595 ..													0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		

2021 Okt		P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
Ser	BH	90	3	29												24																							
Ser	EG	L10	3	98s	47				95s	44				93s	41				90s	39				87s	36				85s	34				82s					
Ser	LX	K10	3	29				30	25	26				27				28	23	24				25								22							
Sex	T	90	71				68									72	70	67	64					47				76	74	71	68	66							
Tau	RW	S10	3					63				40				71				47																			
Tau	CD	S10	3	71s	43				58s				73				45s					60					75s	47											
Tau	EN	E10S	67				53s	63				49s	73s	58				44s	68s	54	40s	64s	50				59s	45	69	55s									
Tri	X	S10	3									73	70	67	64	62	59	56	53	50	47	44	42	39	36	33	30	27	25	22									
Tri	RU	E10S	2	67				30s	57s				47				74	38s				64s	28				55				45s								
UMa	RV	S10	47+				47+	47+	47+	47+	47+	47+	47+	47+	47+	48+	48+	48+	48+	48+	48+	48+	48+	49+	49+	49+	49+	49+	49+	49+	49+	49+	49+						
UMa	RV	RR	35	29	70	63					31	25+				65					33	27+	67	61	29+				23+	63	57								
UMa	RW	E10S									71									70s												69							
UMa	TU	RR	66				68				70				72				62				74	64				76											
UMa	TX	S10	60	66				72																48				59				29							
UMi	W	S10	37				47				58				28	68				38	48				59				29										
Vir	AG	E10D																	74	70s					74				70s	66									
Vir	AH	S10																	70s				72	74s					69				70s	72					
Vul	Z	S10	3	28																				37				28											
Vul	BN	90	3	47	44				41	38				35				32	29				26	23				42	39										
Vul	DR	E10X	29+								29+								29+								30+												
Vul	EV	E10S	3									46				28												39											
JD	594	..	89	90	91	92	93	94	95	96	97	98	99																										
JD	595	..													0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19					
2021 Nov			P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
And	SW	RR	3	32	21	53	42	30	51				40	28	49	38	26	59	47	36	24	57	46	34	22	55	44	32	20	53	42	30	51						
And	SY	L10	1																									84				89	94						
And	TW	S10													20s				27	33s				39	45s				51										
And	XX	90	52	24	69	41	58	30	47				64	36	53	25	42	59				31	48	20	37	54	26	43											
And	CD	L10	2																									17				\	24	/	30				
And	OV	90	25	66	60	54	49	43	37	31	25	60	54	49	43	37	31	25	49	43	37	31	25	19	54	49	43												
Aqr	SW	RR	27				32				24	37				29	21	34	26	31				23	27				34	28				20					
Aqr	SX	90	3	23				30	38	27				34	23				30	38	20				27				34										
Aqr	CD	E10S	3	14				98								82				66				50				33											
Aqr	HH	90	29				32				34				21				36	23				38	25				27				29						
Aqr	LL	L10	2					69s												78								87s											
Aql	AA	RR	33	23				31	21				29	27				25				23				21				30	19				28				
Aql	V0341	29				34				23				27				32				21				25				30									
JD	595	..	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						

2021 Nov	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Aql V0889			29				34		47s	23			27				32		59s	21				25			30		71s				
Aql V1353	E10S		22s		34					29s				25					20s			32				27s							
Aql V1426	E10S		33+	51	9+	27+	44s	3+	21+	38+	56	15+	32+	50s	8+	26+	43	2+	20+	37+	55s	13+	31+	48	7+	25+	42s	1+	18+	36+	54	12+	
Aql V1430	E10S		32s			25			31s					24		30s										23	22						
Ari X	RR 2	39		34	64	29	59		55		50		46		41		36		32	62	27	57		53		48		43		39			
Ari RS	L10 2				56								36									17									97		
Ari AL	E10S									60				34												59				33			
Aur TZ	90	72	51	68	47	64	42	60	38+	56	34+	52	69	47	65	43	61	39+	57	35+	52	31+	48	66	44	62	40+	57	36+	53	32+		
Aur CQ	L10 2				74							5s					36					68s					99						
Aur IY	E10S				65				45											62			41								79		
Aur V0432			33				41		49				57		65				74	28s			36s			44s		52s					
Aur epsil	L10 2																																
Aur zeta	L10 1																																
Boo RS	RR								69			71		73			75			77		65	79		67			69					
Boo TW	90		70	23+							68	21+							67	20+						65	71	78					
Boo UU	90						24					72					75	20				77	69				71						
Boo UY	90			76													78		73										79				
Boo AC	E10D	73s	26	67	73	26s	66s	72s	25	66	72	25+	66s	71s	24+	65	71	24+	65s	71s	23+	64	70	23+	64s	70s	23+	63	69	22+	63s		
Boo CM	90						74										70					75		79				67					
Boo CQ	90 3								77			74										76		73		71			78				
Boo CS	90		76						74					72					70				68	79				66	77				
Cam SS	E10S 3		50s		91			32s		73			14s		55		97s		38			79s		20		61s		3					
Cam SV	S10	31+	49	38+	27+	46+	35+	24+	42+	31+	50s	39+	28+	46+	35+	24+	43+	32+	21+	40+	28+	47+	36+	25+	44+	33+	22+	40+	29+	48+	37+		
Cam AK	E10S		22s	33	44s	56	67s						24	35s	46	58s	69					26s	37	49s	60	71s							
Cam AN	L10 3		22s	33	44s	56	67s						24	35s	46	58s	69					26s	37	49s	60	71s							
Cam AT	E10S	55s	25	65	35s	74s	44		53s	23	63	33s	72s	42	51s		21	61	30s	70s	40		49s	19	59	28s	68s	38	77	47s			
Cnc S	L10	19									67																		64				
Cnc RU	L10 2								68										85										2				
Cnc RW	90	61	70				53	63	72				55	65	74			48	57	67	76		50	59	69	78	42	52	61				
Cnc RZ	L10 2		33	96/								53\	\	15s	78/							35\	96	/	60/								
Cnc TT	90	52	65				59	72				54	66		48		61	73		55		68		50	62	75		44	57	69			
Cnc TU	E10S 3					76						32					88						44						1				
Cnc TW	L10 2		21\	27	33/																												
Cnc UU	L10 2			\	\										51												/	/					
Cnc ZZ	L10 2											46\	48	50/																			
Cnc AQ	90		60	70			54	64	73				57	67	77				51	61	70				54	64	74		48	58			
CVn W	90		75				72					69					65	76					62	72				58	69	79			
CVn Z	90			77	73		69	66				62	58	54								77	73	69			66	62	58				
CVn RS	S10 3						67s															66											
JD 595	..	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	

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CVn RZ 90					68				66					76				74				71				68				65	79		
CMa R S10 3					58	72					70s			67				65s				62				60s				58			
CMi AM E10S																				48		50	52	54	56	58	60	62	64	66	68		
Cas RX L10 2													90			/	/														7s		
Cas RZ S10 3		28	48	67				26	45	65				23	43	63										19	38	58	77				
Cas SX L10 2		76\	\	59	/	42\																											
Cas TV S10					71			52	34					77	59			40	21						65		46	27					
Cas TW S10					51			37		23	65			51				37		22	65				51		37	79	22	65			
Cas TX E10S					35			28	74s		67s			59s				52s		45s					38s	30s	77		23s	69			
Cas AQ L10 2				59\	64	70\				45\	51s	56\				31\		37	42\					17\	23s	28\		3\	9	14\			
Cas BM L10 3														/																			
Cas DN E10S		29	45s	60	76s				22	38s	53	69s						31s	47	62s	78				24s	40	55s	71					
Cas GG E10S					39									67															70				
Cas GU E10U					72																				28		37	47		56			
Cas IL E10S 3					55						46																		72				
Cas IT E10X					55+				47s		46	36s				26s		36							26			72					
Cas OX E10X					52+				50+					48+					45+						43+				41+				
Cas PV E10X					52+		58s		50+					48+	34s				45+	59s					34s	43+		59s	41+	34s			
Cas V0368		33			55s						23			46s	68										36s	59					26s		
Cas V0375		63	36s		57	31s		52	26s	73s	47	20s	68s	42	63s		36	57s	31	78		52s	26	73	47s	20	68	41s	62	36s			
Cas V0381		63	36+		57	31s		52+	26s	73+	47	20s	68s	42	50s	63s	36+	57s	31	78		52+	26	73+	47s	20	68	41s	47s	62	36+		
Cas V0459					28				52+	26				50				24+						48	23	74s		47	21				
Cep RZ 90		49	42+	34+	27+	50		43+	35+	28+	21+	44+	37+	29+	22+	45+	38+	31+	23+	47+	39+	32+		25+	48	41+	33+	26+	49	42+	35+	27+	20+
Cep V000W		24+	21+	32+	30+	27+		25+	22+	33+	31+	28+	26+	23+	20+	32+	29+	27+	24+	21+	33+	30+		28+	25+	22+	20+	31+	28+	26+	23+	21+	32+
Cep XX S10		58						25	59					27	60										61			29	63				
Cep XY E10S							60		37									69		47				24				79					
Cep ZZ S10						27		41	55			69											40	54			69						
Cep AI E10S 3	46				58s													25s	36	48s				59									
Cep CW E10X					63+				36+							54+				27+					73+		46+		19+				
Cep EI L10					32				54s			75				97s									41s				63				
Cep EX L10					39														82														
Cep NN E10S		69	72s	75																							39	42s	45	48s	51		
Cet RR RR		47	58		34		45	56		32		43	53		30		41	51		28		38	49		25		36	47		23			
Cet RV 90		46					45					43										42			41		40						
Cet TU E10S 2				7				46				86															3				42		
Cet TV L10 2									6+										16+									26+					
Cet XY E10S 2						45s				62		40					57s		35s					52			30			47s			
Com S 90			74		68				61			72		65						58	76				69		62		73				
Com ST 90 3		75		75				74		74				73				73		72				72		71		71					
JD 595 ..		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	

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CrB U S10																70																				
CrB RV 90 3												78	77	77	76	76	75	75	74	74	73	72	72													
Crt W 90 2											76												77						71							
Cyg Y S10											76												77						71							
Cyg UY RR	42			22	34	46			27	39				31	44				24	36			29	41			21	33								
Cyg XZ RR	41	34	27	21		54	47	41	34	27+	21		54	47	41	34	27+	21				47	41	34	27+	21		47	41	34						
Cyg BO E10S					53s	41	28s						43	31s							45		33s	21				48	36s	24						
Cyg BR E10S	42s	42	42s			42		41s			41		41s		41		41s		41			41s	41		41s		40	40s								
Cyg DM RR	40	24	50	34		44	28	38	22	47	31	41	25				35		45	29		39	23	33		43	27	37								
Cyg V0367			22	/	/								\	52s	/	/						82	/	/												
Cyg V0463													24	30s	36																		24s			
Cyg V0477													24	30s	36								23s										24s			
Cyg V0541									81+																		15+									
Cyg V0548	29s						51s	41	31s	22							44	34s	24				76s				46	37s	27							
Cyg V0788																				74\		70	65/													
Cyg V0891							34		25																			30	21							
Cyg V0909		25							27s								28						29s										31			
Cyg V1061 E10S	52					22		56				26																34								
Del DX 90 3						39	33	28	22							37	31	26	20					35	29	24										
Del NN L10 1																																				
Dra RW RR	37	26+		36		24+		34	23+			44	33+	21+			43	32+	20+	42		30+	63	40	29+		62	39	27+	60						
Dra SU RR	32	64	30	62	28	60	26	58	24	57	23	55	21	53			51	49			47		45	77	43	75	42	74	40	72	38					
Dra SW RR	65	22	36	50	64	21	35	49	63	77	34	48	62	76	33		47	60	74	31	45		59	73	30	44	58	72	29	43	57	71				
Dra TZ E10D	26s	42	29			32s			35		22		38s	25s			41	28			31+			34+	21		37s	24s								
Dra V000Z	32+	29+	25	21		46	42+	39+	35+	31+	28+	24	20	77			41+	37+	34+	30+	26+	23+		79	76	40+	36+	33+	29+	25+	21+					
Dra WW S10	33									59					22											48										
Dra XZ RR 3	64	60	55	50	46	41	36	31	27+	22+	65	60	56	51	46		41	37	32	27+	23+		66	61	56	52	47	42	37	33	28+	23+				
Dra AI S10			38						37		77				37						76		36		76				35		75					
Dra BF L10			38						37	75s	77				37		35s	76					36		76				35+		75					
Dra BK 90	62	22	40	59	77	36	55	73	32	51	69	28	47	65	24		43	61	20	39	57		76	35	53	72	31	49	68	27	45	64				
Dra BU E10S	61						35	31s	26	22s											75		71s	66	62s	58	53s									
Dra DD 90	38		74	52	30		66	44	22		58	36		71	50		28		63	42	20		77	55	34		69	47	26		61	39				
Dra GV L10																					78															
Equ S S10															35							22														
Eri SV 90 2		39	53				39	53				39	53					38	52				38	52				37	52							
Gem RR 90	66	45	64	44	63	42	62	41	60	40	59	38+	58	37+	56		75	55	74	54	73		52	71	51	70	50	69	48	67	47	66				
Gem RY L10 2				24					89s					54							19s			84												
Gem SZ 90																												39	40	40	40	40				
Gem WW E10S		53	77	39s	62s		48	72	58s		43	67	53s				77s	38	62	48s		72s	34	57	43s		67s	52	76	38s						
JD 595 ..		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50				

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Gem YY S10			62s	43s	65	47	69s	50s	72	54	76s	57s	39s	61	42	64s	46s	68	49	71s	53s	75	56	38+	60s	41s	64	45	67s	49s	71				
Gem OW L10 2																																			
Her TW RR 3			23		23		23		22		22		22		22		22		21		21		21		21		21		20		20				
Her TX S10												21s	24	27s	30	33s													72	75s	78				
Her UX E10D		25s						22																	26										
Her V000X													20					21									77								
Her V000Z			35	23			32				28			24				77	21			29			25			77	21						
Her AK S10		29			24			24s				25			20						20s		21				79s	21s		79					
Her AR 90		34	28+	22+					33	27+	21+									26+	20+				78		25+	19+							
Her AW L10 3					15							95										75										56			
Her DI L10				15			7s					95					62s					75						17s		56					
Her GU E10U				29																															
Her LV L10 2				29										26s																					
Hya SZ 90 2					65	72						63	71	78														68	75						
Hya WZ 90 2			74							73							72							64	71	79					63	70			
Hya AI L10 2						32+								61+								90+										19+			
Hya ET 90			75						60			66	72	77								57					63	69		74					
Lac RW L10			75	54s					60			66	72+	77								57					63	69+		74					
Lac SW S10		26+	22+	34+	31+	27+	23+	35+	32+	28+	24+	20+	32+	29+	25+	21+	33+	30+	26+	22+	34+	30+	27+	23+	19+	31+	28+	24+	20+	32+	28+				
Lac UW E10S					29				58						87							16					45					74			
Lac CO E10X				54+			63+					25+		34+			42+				51+				59+				22+						
Lac CZ 90		62	48	35	21	51	37	24	53	40	26	56	42	29	58	45	31	47	34	20		50	36	23	53	39	25	55	42	28					
Lac V0345				30+						79+								28+									78+								
Lac V0364				30+				40s		79+								28+									78+				45s				
Leo RR RR		68	58		75		65	56		72		63	53		70		60	51		77	68	58	49		75	65	56		72	63					
Leo SS RR		73					74					75					76	64				77		65			78	66							
Leo ST RR		75	70	66									74	70	65	61								78	74	69	65	60							
Leo WY E10S					57					56						55						53					52					50			
Leo AG E10S			74												62s						71						49								
Leo AM S10		71s	62	72	64s	73s	65	74	66s	76s	67	77	68s	60+	70	61s	71s	62	72	63s	73s	65	74	66s	57+	67	58+	68s	60+	69	61+				
Lyn TY E10S 3											68											34													
Lyn CD E10S 3				60s							42			70s								52						34s	62						
Lyr RR RR			31	44			27	41		24	38			21	34							31				28	41		25	38					
Lyr RZ 90					22	24	27	29	31	33	36	38																20	23	25	27	29			
Lyr UZ S10								40	35s	29	24s																	37s	32	26s	21				
Lyr CN 90		30		36			24	29		35			23	29			34				22					28			22	27					
Lyr EZ RR					23	28	33	38						21	26		31	36									19	24	29	34					
Lyr IO 90					32				36			24			28							32			21			25					29		
Lyr beta S10 3						28						75s										22					69s								
JD 595 ..		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50			

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Mon UX E10S 2		44				39s					34	30s				25	20s				15				11s						6		1s				
Mon V000V		21				24s					26	29s				31	34s				37				39s						42		44s				
Mon AQ E10S 2						71					52s										71s				52							62					
Mon AR L10 1				10\	79\																					31\	16			0\							
Mon AT E10S 2																					49			52	55		58			61		64					
Mon AV E10S 2		52				99s					47	94s					41				89s				36					84s			31				
Mon EZ E10U 2	54+	67s	61	55+	68s		62	56+	50+	63	57+	51+	64	58s	52+	65	59s	53+	47+	60s	54+	48+	61s	55	49+	62s	56	50+	63s	57	51+						
Mon IL E10S 2						15					18					21					23				29					31							
Mon V0448		54	66								58s	70s				49	61	73			53s	64s			44	56	68			47s	59s	71s		51			
Mon V0530		70s	49+	54	59	64	69	48+	53s	58s	63s	68s	47+	52+	57	62	67	46+	51+	56s	62s	67s	46+	51	56	61	66	45+	50s	55s	60s						
Mon V0536						71+																															
Mon V0634		73															53				65																
Oph RZ L10 1																																					
Ori Z E10S 2		97									18					38					58					79					99						
Ori BM E10S 3		63									10					57										4					51						
Ori CP E10S 2						81						13					45								77					9							
Ori DN L10 2											16														13												
Ori FO L10 2																68																					
Ori FT E10X						43s					58s					73s										33s				48s			63s				
Ori GG E10X						43					54s	58				73										33				48+			63				
Ori V0536						57					73															38											
Ori V1016 L10																47																					
Ori V1031 E10S 2						55s					65															57s											
Peg U S10		26+	38+	32+	25+	38s	31+	25+	38s	31+	25+	37s	31+	25+	37s	31+	25+	37s	31+	24+	37s	31+	24+	37s	31+	24+	37s	30+	24+	37s	30+	24+	36s	30+			
Peg V000V		31	28	26	24	21																															
Peg V000W		31	28	26+	24	21																															
Peg AV RR		46	25	42		37					32	27	44			22	40				35					30	25	42	20	37	33	28		23	40	35	
Peg AW L10 2						26s					57					88s																				81	
Peg BH 90		30		23	51						43	36				28	20	48								41	33	25		46	38		30		23		
Peg BK E10S		51s				26										49s					24																
Peg CG 90		47	41	34	28		21				48	42				35	28	22								42	36	29	23			43	36		30	23	
Peg DF L10 3						44																															
Peg DH RR		29	31	33	35	38					40	42	44	21	23		25	27	30	32	34					36	39	41	20	22	24	26	28	31	33	35	37
Peg GH E10S 3						38										21s																				38	
Per RW L10 2						99																														39	
Per RY E10S 3		65									51																										
Per AG E10X		65									51																38										
Per AR 90		33+	61	46	31+	59	44	29+	57	42	27+	55	40	25+	53	38	23+	50	36+	21+	48					23s	24+	28s	67s	31s		34s					
Per AY L10 3											23																									79	
JD 595 ..		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50					

2021 Nov	P	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Per IQ E10X		42+					65+	39+					62+	37+			60+		34+								57+	32+							
Per KN E10U		41	28+	58s	44s	31+	61	48	34	21+	51s	38s	24+	54	41	27+	57s	44s	31+	61	47	34	21+	51s	37s	24+	54	40	27+	57s	44s				
Per LX L10					55				57s			59					61s				63			65s			67								
Per beta S10	3			29	72s			59s		46s			32s				62			49			36			23	66s		53s						
Psc RU 90	3	55	33	50	29	46	24+	41	58	36	53	31	48	26	44	22+	39	56	34	51	29	46	24	41	19+	37	54	32	49	27	44				
Psc RY 90	2			24	30	35	41	47					24	30	36	42						25	31	37	42				19	25					
Psc SS 90	3	28+	43	30+	45	31+	46	33+	48	34	21+	36	22+	37	23+	39	25+	40	26+	41	28+	43	29+	44	31	46	32	19+	34	20+	35				
Sge SY E10S	3								25								33																		
Ser BH 90	3												75										74				78								
Ser EG L10	3		31			80s		28		77s			26		74s			23		72s			20		69s		18		66s						
Ser LX K10	3	23						77									76		77			78	73			79	74		75						
Sex T 90		63	61						77	75	72	70	67	65	62	59	57					76	74	71	69	66	63	61	58	56	53				
Tau RW S10	3			55			32						63				39						70				47								
Tau CD S10	3		62s	34					49s				65				36s					52					67s	39							
Tau EN E10S		41	65	51s	75s		36	60	46s	70s		56	42s	66s			52	75	37s	61s		47	71	33s	57s	43	67	29s	53s						
Tri X S10	3																65	62	59	56	53	51	48	45	42	39	36	33	31	28					
Tri RU E10S	2				35			62	25s				52s					42					33s				59s	23							
UMa W S10		49+	49+	50+	50+	50+	50+	50+	50+	50+	50+	34+	34+	34+	34+	34+	34+	34+	34+	34+	34+	35+	35+	35+	35+	35+	35+	35+	35+	35+	35+	35+	35+		
UMa RV RR		25+	65	59				27+	67			61	54				76	22+	63	56	50					59	52								
UMa RW E10S												69s										68													
UMa TU RR		66					57	68				58	70				60	72				62	74		53	64	76		54						
UMa TX S10														48			54		61				67			73									
UMi W S10			69	39					50			20		60			30		70			40					51	21							
Vir ST 90	2																											78							
Vir AG E10D					77s		73	70s	66				77s	73			69s	66	62s				76s	73	69s		65	62s	58						
Vir AH S10		74s	76				65	67s	69	71s		73	75s	76	78s		64s	65	67s	69		71s	73	75s	77	79s	60s	62	64s	66	68s				
Vir AT 90	2												74										73	78											
Vir AV 90				77			74	71																			79	76	73						
Vir CG E10S																							76s						77						
Vul Z S10	3																										29								
Vul RR E10S	3	23					28					33					38																		
Vul BN 90	3	36		33			30		27			24					22						35			32		29							
Vul DR E10X							30+								31+								31+												
Vul EV E10S	3												32																						
JD 595 ..		20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50			

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And SW RR	3	40	28		49	38	26		47	36	24		45	34	22		43	32	20		41	30		39	28			37	26					
And SY L10	1																	19s		25		31s		37	43s									
And XX 90			60	32		49	21		38		55	27		44			33		50	22		39		56	28		45		34		51			
And CD L10	2																																	
And OV 90		37	31	25	19		54	49	43	37	31	25	19		54	49	43	37	31	25	19		25		49	43	37	31	25	19		49		
Aqr SW RR						25							22				28	20											22					
Aqr SX 90	3			23	30						20	27							23							20	27							
Aqr CD E10S	3	17					1				85					68					52					36					20			
Aqr HH 90					32			19				21				23					25			27										
Aqr LL L10	2								96											5s										14				
Aql AA RR					25				23				21				19																	
Aql V0341		19				24											22												20					
Aql V0889		19				24							83s				22							95s				20						
Aql V1353 E10S		22												25s						20														
Aql V1426 E10S		30+	47s	6+	24+	41+	59	17+	35+	52s	11+	29+	46	5+	22+	40+	58s	16+	34+	51	10+	28+	45s	4+	21+									
Aql V1430 E10S				21							20							19																
Ari X RR	2	34		29	59	25	55	20	50		46		41		36		32		27		22	53		48		43		39		34		29		
Ari RS L10	2										77																	38						
Ari AL E10S																32														31				
Aur TZ 90		49	27+	45	63	41	58	37+	54	33+	50	28+	46	24+	42	59	38+	55	33+	51	29+	47	25+	43	60	38+	56	34+	52	30+	48	26+		
Aur CQ L10	2		30s					61							92s					23					54s				85					
Aur IY E10S				59			38								76			56			35							73						
Aur V0432			60s			69s		23	77s		31				39		47			55			64		72		26s			34s				
Aur epsil L10	2																																	
Aur zeta L10	1																																	
Boo RS RR		71			73		62	75		63	77		65	78		67			69		58	71		60	73		61	75		63	76			
Boo TW 90				63	70		76						62	68	75						54	60	67	73				52	59	65	71		78	
Boo UU 90			74	65				77	68				79	71	62					73	65			76	67	59		78	70	61				
Boo UY 90		75		70		65									76		72			67	62							78		73			69	
Boo AC E10D		69s	22+	63	68	21+	62s	68s	21+	62+	68	56+	61+	67s	55+	61+	67	55+	60+	66s	54+	60+	66	54+	60+	65s	53+	59+	65	53+	59+	65s		
Boo CM 90		71			76					63			67		72					77		59			64		68		73					
Boo CQ 90	3	75		73		70		67			77		75		72		69		67	79	64	77		74		71		69		66	79		63	
Boo CS 90			64	75				62	73				60	71					59	69				57	67	78		55	65	76				
Cam SS E10S	3	44s		85			26s		67			8s		50	91s					32	73s			14	56s		97				38s			
Cam SV S10		26+	44+	33+	22+	41+	30+	19+	37+	26+	45+	34+	23+	41+	30+	19+	38+	27+	46+	35+	24+	42+	31+	20+	39+	28+	46+	35+	24+	43+	32+		21+	
Cam AK E10S		28	39s	51	62s	73						19	30s	41	53s	64	75s				21s		32	43s	55	66s	77						23	34s
Cam AN L10	3	28	39s	51	62s	73						19	30s	41	53s	64	75s				21s		32	43s	55	66s	77						23	34s
Cam AT E10S		57	26s	66s	36	75	45s		55	24s	64s	34	73	43s	52		22s	62s	32	71	41s		50	20s	60s	30	69	39s	79s	48			58s	
JD 595 ..		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79		80	

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Cnc S L10										12								61									9						
Cnc RU L10	2									19									37									54					
Cnc RW 90		71			44	54	63	73			46	56	65	74	39		48	57	67	76			41	50	59	69	78		42	52	61	71	
Cnc RZ L10	2			18\	80s	/	42/							00\	\	62	/	24/							82\	\	44s	/	6/				
Cnc TT 90				51	64	77		46	58	71		40	53	65	78		47	60	72		41	54	67		49	61	74	43	56		68		
Cnc TU E10S	3			57						13						69					25					81							37
Cnc TW L10	2																																
Cnc UU L10	2																																
Cnc ZZ L10	2																																
Cnc AQ 90		67	77			51	61	71			45	55	64	74			48	58	68	77			42	52	61	71		45	55	65	74		
CVn W 90				65	76				62	72				58	69	79			55	65	76				52	62	72			59	69	79	
CVn Z 90			54		50			77	73			69	66	62			58	54				50	46	77		73	69		66				
CVn RS S10	3	66s												65												65s							
CVn RZ 90				62	76			59	73			57	70				67				64	78			62	75			59	72			
CMa R S10	3			55s				53				50s			48						59s				57			54s					
CMi AM E10S	69	71	73	75												23			/	/													40s
Cas RX L10	2			/										\	\						23								\	\			
Cas RZ S10	3		36	55	75			34	53	73					31	51	70					29	48	68			26	46	65				
Cas SX L10	2							33\	\	16		99/																					
Cas TV S10				71	52			34						59			40	21							65	46		28					
Cas TW S10			51				36	79	22	65			51				36	79	22	65				50		36	79	22	65				
Cas TX E10S			62		55			47				40		33	79s		25	72s				64s		57s			50s		42s				
Cas AQ L10	2		89\	95s	/	0/		75\	81	86/				61\	67s		72/				47\	53	58/			34\	39s	44/					
Cas BM L10	3																																
Cas DN E10S	33	49s	64					27	42s	58		73s		20			35s	51	66s						29s	44	60s	75			22s	37	
Cas GG E10S			46				22										50						26										
Cas GU E10U				65																			21			31		40					49
Cas IL E10S	3				62							52							43									33		78			
Cas IT E10X					62							52	54s				43s	43		33s						23s	33		78				
Cas OX E10X			39+										35+					33+															
Cas PV E10X			39+	59s	34s			37+		59s			35+					33+	35s				31+	79+			35s	28+	77+			60s	
Cas V0368			49		71s							39		62s										52s	75			20				42s	
Cas V0375			57	31s	78s	52	25s	73s	46	20s	67s	41		62s	36		57s	30	78	51s	25	72	46s	20	67	41s		62	35s	56		30s	
Cas V0381			57	31s	78s	52+	25s	73+	46	20s	67s	41	43s	62s	36		57s	30	78	51+	25	72	46s	20	67	41s		40s	62	35s	56	30s	
Cas V0459				19s	45			20						65s	43													40		57s			
Cep RZ 90		43+	36+	28+	21+	45+	37+	30+	22+	46+	38+	31+	24+	47+	40+	32+	25+	48+	41+	34+	26+	19+	42+	35+	27+	20+	44+	36+	29+	21+	45+	37+	
Cep V000W		29+	27+	24+	22+	19+	30+	28+	25+	23+	20+	31+	29+	26+	24+	21+	32+	30+	27+	25+	22+	19+	31+	28+	25+	23+	20+	32+	29+	26+	24+	21+	
Cep XX S10					30			64				31		65					33		66							67					
Cep XY E10S		57			34									67		44					21				76		54		31				
JD 595 ..		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	

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Cep ZZ S10						25	6	39	54		68										25	21	39	53		67								
Cep AI E10S	3					27		38s	49															28s		39	50s							
Cep CW E10X				65+				38+							56+		29+							75+		48+		21+						
Cep EI L10			85s					7				29s				51			73s					95				17s						
Cep EX L10		26													69													13						
Cep NN E10S		54s	56	59s	62	65s	68	71s	74	77s																21	23s	26	29s	32	35s	38		
Cet RR RR		34	44		21		31	42		19		29	40				27	37					25	35			22	33				20		
Cet RV 90		38		25			37		24			36		23			35		22			33		20		32		19				31		
Cet TV E10S	2			81					20			59					99					38			77					16				
Cet TV L10	2						37+									47+								57+										
Cet XY E10S	2		25s					42		20					38s							33			50s		28s							
Com S 90			66		59		77		70			63		57			74		67				60	78	54	71		64						
Com ST 90	3	70		70				69		68							67		67				66		66		65					65		
CrB U S10																	77							68				58						
Crt W 90	2	77					71		77					72							66	72				67		73						
Cyg Y S10		77					71		77					72					66	72					67		73							
Cyg UY RR			26	38				30				23	35				27					20	32			25					29			
Cyg XZ RR		28+	21		48		41	34	28+	21+				41	34	28+	21+					41	34	28+	21+			41	34	28+	21+	61		
Cyg BO E10S						38s	26						41s	29									19s					34	21s					
Cyg BR E10S		40	40s		40		40s	40				40s		73			73s	73	72s					72	72s		72	72s	72					
Cyg DM RR		21	31		40		25	35	19			28	38	22			32		26			36	20	30			24	34						
Cyg V0367		12s	/	/				\	\	42	/	/					\	\	71s	/	/					\	\	1	/	/				
Cyg V0463		30	36s																								77s							
Cyg V0477		30+	36s					31s																			77s					78s		
Cyg V0541												49+															82+							
Cyg V0548			78s					39s	29	20s			71				42s	32	22s				74				35	25s				76		
Cyg V0788																																		
Cyg V0891																																		
Cyg V0909								32s																					76s					
Cyg V1061 E10S				38								42	76						46											19				
Del DX 90	3		33	27	22							31	25	20								29	23							27		21		
Del NN L10	1								92																									
Dra RW RR			37	26+	59		36	25+	58	35+		23+	56		33+	22+	55		32+	21+	53		31+	19+	52		29+	62	51		28+	61		
Dra SU RR		70	36	68	34	66	32	64	30	62	28	60	27	59	25	57	23	55	21	53	19	51		49	47		79	45	78	44	76	42		
Dra SW RR		28	42	56	69	26	40	54	68	25	39	53	67	24	38	52	66	23	37	51	65	22+	35	49	63	20+	34	48	62	19+	33	47		
Dra TZ E10D			30+				33+	20		79	23s				26+				29+			32+	19				25+		28+					
Dra V000Z			78	75	71	35+	31+	28+	24+	20+		77	73	70	34+	30+			26+	23+	19+	48	76	72	69	33+	29+	25+		22+	50	46+	75	71
Dra WW S10				74					37																								51	
Dra XZ RR	3	19+	62	57	52	47	43	38	33	29+	24+	19+	62	57	53	48	43	39	34	29+	25+	20+	63	58	53	49	44	39	35	30+	25+	21+		
JD 595 ..		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80		

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Dra AI S10						75						74					73						73					72						
Dra BF L10						75			77s			74			38s		73						73			59s		72				20s		
Dra BK 90		23	41	60	19+	37	56	74	33	52	70	29	48	66	25	44	62	22	40	58	77	36	54	73	32	50	69	28	46	65	24	42		
Dra BU E10S		28s	23	19s										76s	72	68s	63	59s	55	50s	46				25s	20								
Dra DD 90			74	53	31		66	45	23		58	37	72	50	29		64	42	21	78	56	34		70	48	26	62	40			75			
Dra GV L10															63																			
Equ S S10																28																		
Eri SV 90 2			37						37					36					36				36					35						
Gem RR 90		45	65	44	63	43	62	41	61	40	59	39+	58	37+	57	36+	55	35+	54	33+	53	32+	51	31+	50	29+	49	28+	47	27+	46	25+		
Gem RY L10 2				14					79s					44					9s								39s					4		
Gem SZ 90		41	41	41	41	42	42	42	42	42	43	43	43	43	44	44	44	44	44	44	45	45	45	45	46	46	46	46	46	47	47	47	47	
Gem WW E10S		62s	48	71	33s		57s	43	66	28s		52s	38	62			47s	71s	33	57			42s	66s	28	52	38s	61s	23	47		33s		
Gem YY S10		52	34+	56s	37+	59	41	63s	44s	66	48	70s	51s	33+	55	36+	59s	40s	62	44	66s			47s	29+	51	32+	54s	36+	58	39	61s	43s	24+
Gem OW L10 2																																		
Her TW RR 3			20		20		20	79	19	79	19	79	19	79	19	79	19	78		78			78			78		77		77			77	
Her TX S10														19			22s	25											61	64s		67		
Her UX E10D			22s						19																			78						
Her V000X			78					79						71					72					73				74						
Her V000Z			74				26+		78	22				74	19				71		79	67			75	19		72						
Her AK S10												75			76s				76		76			77s			72s	77		72		78s		
Her AR 90			78	25+	19+							77	24+	65	59				76	70		64	58					75	69	63	57			
Her AW L10 3											36								16								96							
Her DI L10								72s		36									16+								96		82s					
Her GU E10U																	72													75				
Her LV L10 2																	72													75				
Hya SZ 90 2			59	66	73						57	64	72				55	63	70					54	61	69				52		60		
Hya WZ 90 2		78					62	69	77					61	68						60	67						59	66					
Hya AI L10 2									48+										77+							6+								
Hya ET 90		54		60		65			71				51		57		62		68					48		53		59		65				
Lac RW L10		54		60	64s	65			71				51		57	1s	62		68					48		53+		59		65				
Lac SW S10		25+	21+	33+	29+	26+	22+	34+	30+	26+	23+	19+	31+	27+	24+	20+	32	28+	25+	21+	33s	29+	25+	22+	34	30	26+	23+	19+	31s	27+	23+		
Lac UW E10S							3						32				61						90					19						
Lac CO E10X		30+		38+				47+		55+									26+				35+		43+			52+						
Lac CZ 90		44	31		47	33	20	49	36	22	52	38	25		41	27			43	30	46	32	19	48	35	21		37	24		40	26		
Lac V0345			27+								76+								25+							74+								
Lac V0364			27+								76+								25+						74+									
Leo RR RR		53			70	61	51		77	68	58	49		75	65	56	46		73	63	53	44		70	61	51	42	77	68	58	49	39		
Leo SS RR		79		67					68					69		57			70		58				71		59		72		60			
Leo ST RR				77	73	69	64	60	55							77	72	68	63	59	55						76	72	67	63	58	54	50	
JD 595 ..		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80		

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Leo WY E10S						49					47					46					45				43						42		
Leo AG E10S		58s					67					76s	45					54s						63				72s		42			
Leo AM S10		70s	62	53+	63s	55+	64	56+	65s	57+	67	58+	68s	59+	51+	60+	52+	62	53+	63s	54+	64	56+	65s	57+	48+	58+	49+	59+	51+	60+	52+	
Lyn TY E10S 3			33				67								33						66									32			
Lyn CD E10S 3						44s		72				27	54s									37	64s					19s		46			
Lyr RR RR		22+	35				32				29				25				22+				19+	32			72	29		69	26		
Lyr RZ 90		32																	19	21	23+	26+	79										
Lyr UZ S10													34	28s	23								79	74s									
Lyr CN 90					21		27				79	20	26				79	20				25			78	19						77	
Lyr EZ RR					22		27	32							20	25+								71		23+							
Lyr IO 90							21+					25					75						22+						72				
Lyr beta S10 3		17					64s							11													5						
Mon UX E10S 2		96		91s			87			82s			77				72s		68				63s		58			67	53s		48		
Mon V000V			47			49s		52				54s		57			59s					62		64s			67		69s				
Mon AQ E10S 2							53s						62s				43					53					62		44s				
Mon AR L10 1				91\	76s	61\								52\			36	21\									12\	82\					
Mon AT E10S 2		67	70																														
Mon AV E10S 2				78s			26			73s			20				68s					15		63s				10			57s		
Mon EZ E10U 2		45+	58	52s	46+	59	53s	47+	60	54s	48+	42+	55s	49+	43+	56s	50	44+	56s	51	45+	39+	51	45+	40+	52	46s	40+	53	47s	41+	35+	
Mon IL E10S 2			34				36			39			42				44					47				50			52				
Mon V0448		62		42s	54s	66s		45	57			69	37s	49s	61s			40	52	64			43s	55s			35	47	59				
Mon V0530		65s	44+	49	54	59	64	43+	48s	54s	59s	37+	43+	48	53	58	37+	42+	47s	52s	57s	36+	41+	46	51	56	35+	40+	45s	51s	56s	34+	
Mon V0536												52+					65+																
Mon V0634				45			56	67															47	59									
Oph U ST																																76s	
Oph RZ L10 1																																	
Ori Z E10S 2				19					40				60							80				1						21			
Ori BM E10S 3				98								45							92					39						86			
Ori CP E10S 2			41				73						6						38					70					2				
Ori DN L10 2			9														6												2				
Ori FO L10 2			48																														
Ori FT E10X			48												38s																		
Ori GG E10X														38		33s		53															
Ori V0536								36				53																34				51	
Ori V1016 L10																																	
Ori V1031 E10S 2		49					60s						41s																		44s		
Peg U S10		24+	36s	30	24+	36s	30	23+	36s	30	23+	36s	29	23+	35s	29	23+	35s	29	23+	35s	29	23+	35s	29	22+	35s	28	22+	35s	28	22+	
Peg V000V												40	38																				
Peg V000W												40	38																				
JD 595 ..		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	

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Peg AV RR			30	26			21	38	33			28	23	19			36	31	26			21		34		29	24			19				
Peg AW L10	2			13s					44				75s						6				37s					68						
Peg BH 90		43	35	35			28	20				41	33	25					38			30	23					35			28			
Peg BK E10S				45s				20						43s												41s								
Peg CG 90		37	30	24					38	31		25						32	25	19				33	26	19					33			
Peg DF L10	3	84												19	21	24		54																
Peg DH RR		20	23	25	27		29	31	34	36							26	28	30	32					20	22	24	27	29					
Peg GH E10S	3	22s						33s											27							22s								
Per RW L10	2											59														79								
Per RY E10S	3	54s									40s							26s									56							
Per AG E10X		37s	54+	43s			46s	48s	40s			51s	54s	57s			26+	63s			66s						56							
Per AR 90		55	40	25+	53	38	23+	51	36	21+	48	34	19+	46	31+	59	44	29+	57	42	27+		55	40	25+	53	38	23+	51	36	21+	49	34	
Per AY L10	3												56											34										
Per IQ E10X				55+			29+					52+	27+						50+	24+					47+		21+							
Per KN E10U		30s	60	47	34	20+	50s	37s	24+	54	40	27	57s	43s	30s	60	47	33	20+	50s	37s	23s	53	40	26	56s	43s	30s	60	46	33	20+		
Per LX L10		69s					71		72s					74				76s				78				80s		82						
Per beta S10	3	40s					26s		56				43				30		60s			47s				33s		20s						
Psc RU 90	3	22	39	34	52		30	47	25	42	20	37	32	49	28		45	23	40	35		30	47	25	43	21	38	33				28		
Psc RY 90	2	31	37	43				20	26	32		38						20	26	32	38					21	27	33						
Psc SS 90	3	21+	37	23+	38	24+	39	26+	41	27	42	29	44	30	45	32	47	33	19+	35	21+	36	22	37	24	39	25	40	27	42	28	43		
Sge SY E10S	3	26s																								26								
Ser V000Y													79					79					79				79							
Ser AN 90	3	77											73	78									70	74		78								
Ser BH 90	3	69		74			78					69		73				77	64			68		73			77	64					68	
Ser EG L10	3	15																																
Ser LX K10	3		76	71			77	72	78	73		68	79	74	69		75	70	76	71		66	77	72	67	78	73	68	63+	74	69	64		
Sex T 90			78	75	72		70	67	65	62	60	57	54	52	49	79	76	74	71	69	66		63	61	58	56	53	51	48	45+	75	73	70	
Tau RW S10	3	24							54				31																					
Tau CD S10	3		54s	26				69	41s									28s					43				59s	30						
Tau EN E10S		76s	38	62	48s		72s	34	58	44s		68s	30	54	39s		63s	25	49	35s		59s		45	69	31s	55s	40	64	26s	50s			
Tri X S10	3	25	22	19																						54	51	48	45	42	40		37	
Tri RU E10S	2	50					40s					30		57			20s		47s					37				28s						
UMa W S10		35+	36+	36+	36+	36+	36+	36+	36+	36+		36+	36+	37+	37+	37+	37+	37+	37+	37+	37+	37+	37+	37+	38+	38+	38+	21+	21+	21+	21+	21+	21+	
UMa RW RR		73	20+	61	54	48		76	69	63		56	50	44	78		71	65	58	52	46			73	67	61	54	48	41			75	69	
UMa RW E10S				67s											66											66s								
UMa TU RR		66	78		56		68	79		58		70		49	60		72		51	62		74		52	64		75	43	54	66			77	
UMa TX S10																											37					43		
UMi W S10		61	31				71	41					52				22		62			32		72		43							53	
Vir ST 90	2			76								75										78		66			71	77					64	
JD 595 ..		50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80		

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Die 4. Auflage enthält wesentliche Erweiterungen weiterer Autoren zum Thema Auswertung. 318 Seiten, 118 Abbildungen, 10 Tabellen, Format 16 x 22,5 cm, glanzfolient 22,00 €

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