

# Grange Observatory

## LUNAR OCCULTATIONS FOR YEAR 2018

### TABLES LEGEND

Date/Day/Time	the time scale herein used is the Central Europe Time (CET)
A	estimated calculation error in time of event (seconds)
P	phenomenon
D	star disappearance
R	star reappearance
G	graze occultation
SAO	(when present) Smithsonian Astronomical Observatory catalogue star number
Mag	star magnitude in SAO catalogue
Al	star height above horizon (degrees)
Az	azimuth (degrees)
Sn	Sun height above horizon (negative = below horizon, degrees)
K	Moon's illumination (phase in percent)
Name	(when present) classic star designation

## Occultations 2018 for Grange Observatory WGS 84 coordinates

Day	Date	Time	A	Mag	P	K	Al	Az	Sn	SAO	Name
	d m y	h m s	s			%	°	°	°		
Thu	04-01-2018	21:46:41	1	5.4	R	89%	15	85	-49	98733	psi Leonis, NSV 04594
Tue	09-01-2018	03:50:16	1	7.0	R	48%	27	130	-45	139322	
Wed	10-01-2018	04:24:04	1	7.2	R	38%	22	130	-39	139794	
Wed	10-01-2018	06:55:52	1	6.5	R	37%	35	170	-12	139834	
Wed	10-01-2018	07:26:41	1	6.6	R	37%	36	179	-7	139847	
Sat	13-01-2018	06:36:42	1	6.7	R	13%	14	135	-16	160044	
Sat	20-01-2018	19:56:33	1	6.7	D	12%+	8	247	-27	165353	
Sun	21-01-2018	20:35:05	1	7.7	D	19%+	12	249	-34	146849	
Mon	22-01-2018	21:33:46	2	7.1	D	28%+	13	254	-43	128806	
Tue	23-01-2018	19:53:57	1	7.6	D	37%+	38	225	-26	109795	
Thu	25-01-2018	18:45:55	2	5.9	D	59%+	55	168	-14	93232	
Thu	25-01-2018	22:22:20	1	7.1	D	60%+	39	244	-51	93275	AQ Arietis
Fri	26-01-2018	00:31:30	1	6.0	D	61%+	17	270	-64	93320	
Sat	27-01-2018	00:45:58	1	6.0	D	72%+	26	265	-63	93775	NSV 01466
Mon	29-01-2018	02:42:26	1	5.2	D	91%+	30	268	-53	95432	71 Orionis
Sat	03-02-2018	03:46:36	1	6.7	R	91%	50	198	-43	118806	
Sun	04-02-2018	02:57:47	1	6.9	R	84%	46	161	-50	119278	
Thu	08-02-2018	05:18:52	2	3.9	R	45%	26	154	-26	159370	gamma Librae
Fri	09-02-2018	03:57:29	1	7.0	R	36%	10	127	-40	159888	
Fri	09-02-2018	06:48:14	4	7.2	R	35%	26	166	-10	159919	
Mon	12-02-2018	06:42:24	1	5.0	R	12%	10	134	-10	187498	xi 1 Sagittarii
Sun	18-02-2018	18:41:27	1	6.6	D	8%+	20	243	-7	128661	NSV 15057
Mon	19-02-2018	18:33:41	1	6.1	D	14%+	32	235	-6	109643	26 Ceti
Mon	19-02-2018	21:17:31	2	6.4	D	15%+	6	267	-34	109694	29 Ceti
Wed	21-02-2018	18:11:49	2	4.3	D	32%+	53	205	-2	110723	mu Ceti
Thu	22-02-2018	18:12:38	2	6.7	D	43%+	59	185	-1	93532	
Fri	23-02-2018	17:51:52	2	0.9	D	54%+	59	150	+3	94027	Aldebaran
Fri	23-02-2018	18:37:16	2	0.9	R	55%+	61	172	-6	94027	Aldebaran
Sat	24-02-2018	21:38:31	1	7.3	D	67%+	56	227	-36	94787	
Sat	24-02-2018	21:51:54	1	6.7	D	67%+	55	232	-38	94793	127 Tauri
Wed	28-02-2018	18:47:31	1	5.4	D	98%+	21	91	-6	98733	psi Leonis, NSV 04594
Mon	05-03-2018	04:25:40	1	5.7	R	88%	37	202	-28	139428	80 Virginis
Tue	06-03-2018	06:22:49	1	6.6	R	80%	27	218	-8	139953	
Sun	11-03-2018	05:34:47	2	5.8	R	34%	16	146	-14	187086	
Tue	13-03-2018	05:07:26	2	5.3	R	18%	3	121	-18	163445	sigma Capricorni
Thu	22-03-2018	21:37:52	1	5.0	D	30%+	26	268	-29	93950	75 Tauri
Fri	23-03-2018	19:40:36	1	7.3	D	40%+	55	230	-10	94510	
Fri	23-03-2018	23:54:27	1	4.3	D	42%+	14	283	-43	94628	119 Tauri, CE Tauri
Sat	24-03-2018	00:30:18	1	5.7	D	42%+	8	288	-44	94649	120 Tauri, V960 Tauri
Sun	25-03-2018	00:55:41	1	7.1	D	54%+	14	284	-43	95852	22 Geminorum
Mon	26-03-2018	01:52:48	1	6.8	D	65%+	14	283	-40	97087	
Wed	28-03-2018	01:52:59	1	6.3	D	85%+	30	260	-39	98662	7 Leonis
Wed	04-04-2018	03:23:11	2	5.4	R	86%	29	179	-27	159466	eta Librae
Sat	07-04-2018	02:00:04	2	5.3	R	62%	7	128	-35	186543	15 Sagittarii
Sun	08-04-2018	04:24:58	1	2.9	R	51%	17	148	-16	187756	pi Sagittarii
Wed	18-04-2018	20:42:46	1	7.2	D	9%+	14	279	-14	93803	
Wed	18-04-2018	20:51:19	1	7.7	D	9%+	12	280	-15	93806	
Fri	20-04-2018	21:14:12	1	5.8	D	27%+	30	268	-18	95359	68 Orionis
Sat	21-04-2018	19:53:54	1	7.8	D	37%+	53	237	-6	96588	
Sat	21-04-2018	22:29:34	1	7.4	D	38%+	28	271	-27	96697	
Sun	22-04-2018	00:10:51	1	7.2	D	39%+	11	287	-33	96781	
Tue	24-04-2018	01:35:28	1	6.6	D	62%+	13	279	-30	98517	
Thu	26-04-2018	22:44:15	1	6.7	D	89%+	48	192	-27	119139	NSV 19065
Sat	28-04-2018	20:02:53	1	5.7	D	98%+	20	120	-6	139428	80 Virginis
Tue	08-05-2018	04:01:40	2	4.3	R	50%	17	138	-11	164346	Tae, iota Capricorni
Fri	11-05-2018	04:00:36	7	6.1	R	22%	5	104	-11	146919	NSV 14715

Day	Date	Time	A	Mag	P	K	Al	Az	Sn	SAO	Name
	d m y	h m s	s			%	°	°	°		
Thu	17-05-2018	20:47:02	1	7.3	D	7%+	13	285	-8	94934	NSV 16706
Thu	17-05-2018	22:07:52	2	5.9	D	8%+	1	298	-18	94986	57 Orionis
Fri	18-05-2018	22:06:18	1	7.4	D	15%+	10	288	-18	96312	
Sat	19-05-2018	22:23:02	1	7.1	D	25%+	17	280	-19	97463	
Sat	19-05-2018	23:58:22	1	6.2	D	25%+	2	296	-25	97537	
Sun	20-05-2018	20:47:53	2	6.2	D	35%+	41	251	-8	98245	
Tue	29-05-2018	02:45:31	2	5.5	D	100%+	19	220	-16	159625	49 Librae
Wed	06-06-2018	02:45:41	2	6.8	R	57%-	16	126	-16	165233	
Mon	25-06-2018	00:50:44	1	5.4	D	90%+	18	222	-21	159466	eta Librae
Thu	28-06-2018	23:44:10	2	3.8	R	99%-	20	159	-21	187643	omicron Sagittarii
Tue	03-07-2018	01:03:41	1	5.8	R	81%-	18	131	-22	165044	50 Aquarii
Wed	04-07-2018	02:09:24	1	7.0	R	72%-	24	134	-19	146563	
Wed	04-07-2018	04:18:32	2	4.2	R	71%-	35	167	-5	146598	psi 1 Aquarii
Sun	08-07-2018	03:08:28	2	4.3	R	32%-	19	97	-14	110543	xi 2 Ceti
Mon	09-07-2018	02:44:16	1	7.3	R	22%-	9	81	-16	93398	
Mon	09-07-2018	04:23:57	1	6.0	R	21%-	26	98	-5	93416	
Thu	26-07-2018	01:14:31	2	5.7	D	97%+	18	210	-25	187422	33 Sagittarii
Fri	27-07-2018	21:20:04	1	8.9	D	0%E	11	133	-12	163632	
Fri	27-07-2018	21:39:12	2	9.3	D	0%E	13	137	-14	189367	
Fri	27-07-2018	21:56:40	1	9.9	R	0%E	15	140	-16		
Fri	27-07-2018	22:01:54	1	9.4	D	0%E	16	141	-17	163649	
Fri	27-07-2018	22:08:33	3	9.8	R	0%E	17	143	-17		
Fri	27-07-2018	22:35:37	2	9.3	R	33%E	19	149	-20	189367	
Fri	27-07-2018	22:41:06	1	8.9	R	42%E	20	150	-21	163632	
Mon	30-07-2018	01:48:47	2	6.1	R	96%-	31	173	-24	164923	39 Aquarii
Wed	01-08-2018	03:13:32	1	6.1	R	84%-	38	171	-18	146919	NSV 14715
Sun	05-08-2018	01:50:34	1	5.9	R	47%-	20	95	-26	93232	
Sun	05-08-2018	04:57:09	2	7.1	R	46%-	50	137	-5	93275	AQ Arietis
Sat	18-08-2018	20:41:50	1	5.5	D	55%+	23	211	-12	159625	49 Librae
Tue	21-08-2018	23:54:50	2	5.9	D	82%+	14	219	-32	187071	
Thu	23-08-2018	01:04:52	2	6.1	D	89%+	11	224	-33	188219	
Tue	28-08-2018	02:47:56	1	6.4	R	98%-	36	200	-27	146795	
Fri	31-08-2018	03:52:34	1	6.8	R	80%-	51	179	-20	110264	
Sun	02-09-2018	01:43:42	1	6.7	R	61%-	34	105	-34	93532	
Mon	03-09-2018	01:49:44	2	6.7	R	50%-	28	93	-34	94019	
Mon	03-09-2018	01:58:48	1	7.2	R	50%-	30	95	-34	94018	
Tue	04-09-2018	01:40:52	1	7.5	R	39%-	18	81	-35	94634	
Tue	04-09-2018	03:02:45	4	7.2	R	39%-	32	94	-27	94684	
Tue	04-09-2018	05:23:18	1	7.6	R	38%-	55	127	-7	94739	
Mon	17-09-2018	18:55:42	2	5.5	D	58%+	23	179	-4	186509	14 Sagittarii
Tue	18-09-2018	23:17:48	2	6.4	D	68%+	9	227	-41	187816	
Sat	22-09-2018	18:47:52	1	5.8	D	95%+	10	121	-4	165044	50 Aquarii
Sat	22-09-2018	22:47:26	1	6.4	D	95%+	32	178	-40	165123	
Sun	23-09-2018	21:50:25	2	4.2	D	98%+	31	149	-34	146598	psi 1 Aquarii
Sun	23-09-2018	22:49:12	2	4.4	D	98%+	35	165	-41	146620	psi 2 Aquarii
Thu	27-09-2018	22:09:57	1	4.3	R	92%-	23	101	-38	110543	xi 2 Ceti
Sat	29-09-2018	23:38:11	1	6.6	R	76%-	26	93	-46	93838	
Sun	30-09-2018	01:16:16	1	7.0	R	75%-	43	112	-46	93870	55 Tauri
Sun	30-09-2018	03:19:21	1	5.6	R	75%-	59	151	-32	93900	63 Tauri
Sun	30-09-2018	03:46:58	2	7.0	R	75%-	61	163	-28	93913	
Sun	30-09-2018	05:28:08	1	6.9	R	74%-	59	211	-11	93938	
Wed	03-10-2018	03:40:54	1	5.1	R	42%-	41	103	-30	79328	56 Geminorum
Wed	03-10-2018	05:31:29	1	7.3	R	41%-	58	132	-11	79375	
Wed	03-10-2018	06:18:58	1	5.9	R	41%-	63	152	-3	79391	61 Geminorum
Mon	15-10-2018	21:33:51	1	6.6	D	41%+	6	231	-39	187381	31 Sagittarii
Fri	19-10-2018	22:23:14	2	6.1	D	78%+	27	205	-47	164923	39 Aquarii
Sun	21-10-2018	22:49:14	1	6.1	D	92%+	38	189	-51	146919	NSV 14715

Day	Date	Time	A	Mag	P	K	Al	Az	Sn	SAO	Name
	d m y	h m s	s			%	°	°	°		
Sun	28-10-2018	21:45:12	2	4.4	R	80%	12	73	-45	77705	chi 1 Orionis
Mon	29-10-2018	01:55:42	1	6.9	R	78%	54	122	-52	77889	
Mon	29-10-2018	06:11:41	3	6.8	R	77%	56	235	-10	78077	
Tue	30-10-2018	01:47:19	2	4.0	R	68%	43	105	-53	79031	zeta Geminorum
Wed	31-10-2018	00:13:47	1	6.3	R	58%	17	79	-59	97471	
Thu	01-11-2018	04:06:51	2	7.2	R	45%	45	113	-33	98389	78 Cancri
Sat	03-11-2018	04:35:13	2	7.2	R	23%	26	104	-28	118628	
Wed	14-11-2018	17:09:48	2	6.3	D	41%+	25	168	-2	164043	AO Capricorni
Fri	16-11-2018	21:31:26	1	6.8	D	61%+	27	213	-47	165233	
Wed	21-11-2018	21:48:52	1	4.3	D	97%+	51	146	-50	110723	mu Ceti
Sun	25-11-2018	07:25:30	1	4.4	R	95%	22	277	-3	77705	chi 1 Orionis
Mon	26-11-2018	06:19:40	1	6.6	R	89%	44	255	-14	78852	
Tue	27-11-2018	00:09:29	1	6.5	R	82%	38	99	-66	79665	79 Geminorum
Wed	28-11-2018	06:41:06	2	6.3	R	70%	56	225	-11	98276	F2 Cancri
Thu	29-11-2018	06:21:24	1	7.4	R	59%	59	192	-15	98854	
Fri	30-11-2018	04:22:02	2	5.3	R	48%	44	127	-36	99305	53 Leonis
Tue	04-12-2018	05:12:15	1	6.5	R	10%	7	110	-28	139834	
Tue	04-12-2018	05:27:34	2	6.6	R	10%	9	113	-25	139847	
Fri	14-12-2018	17:46:10	3	7.3	D	42%+	34	174	-10	165489	
Wed	19-12-2018	19:25:45	2	6.0	D	89%+	45	126	-26	93320	
Fri	21-12-2018	04:47:04	2	5.6	D	96%+	14	280	-34	93900	63 Tauri
Sat	22-12-2018	03:35:24	2	6.2	D	99%+	38	260	-47	94478	
Tue	25-12-2018	03:30:01	3	6.5	R	92%	62	201	-48	97884	
Tue	25-12-2018	23:27:37	1	6.3	R	85%	30	97	-65	98561	
Fri	28-12-2018	04:16:44	2	6.7	R	64%	49	149	-40	118892	
Sat	29-12-2018	06:43:28	1	7.3	R	52%	47	186	-15	119392	
Sun	30-12-2018	04:58:10	1	7.1	R	41%	33	139	-33	139236	SW Virginis