Current Target Asteroids! Campaign ***recommends particular asteroids for observers to concentrate on in the next calendar quarter. These are the highest priorities. Some are on the main Target Asteroids! list already, some are new to the list, and some are one-time-only requests. We hope you find the additional comments and insight interesting as you plan and make your observations! Wishing you clear skies!***

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(112) Iphigenia (a=2.43 AU, e=0.13, i=2.6°, H = 9.8)

Iphigenia is a ~70-80 km carbonaceous asteroid located in the inner Main Belt. Its orbit is similar to those of the Polana and Eulalia carbonaceous families and Iphigenia may be related to these families and to the OSIRIS-REx target asteroid (101955) Bennu (Walsh et al. 2013). Quite a bit is known about Iphigenia. It has a dark 0.039 albedo, a hydrated Ch taxonomy, and a slow rotation period of ~31.4 h. During the July-September quarter, its phase angle spans from 22 degrees to a minimum of 0.2 degrees on August 11.

DATE	RA	DEC	Δ	r	V	PH	Elong
07/01	21 47.8	-14 45	1.33	2.17	13.1	19	135
07/11	21 45.9	-14 45	1.25	2.16	12.9	15	145
07/21	21 41.0	-14 56	1.19	2.15	12.6	11	155
07/31	21 33.5	-15 18	1.14	2.14	12.3	6	167
08/10	21 24.5	-15 44	1.13	2.14	11.9	0	179
08/20	21 15.1	-16 09	1.13	2.13	12.2	5	170
08/30	21 06.8	-16 28	1.16	2.13	12.5	10	158
09/09	21 01.0	-16 36	1.21	2.13	12.7	15	147
09/19	20 58.3	-16 33	1.28	2.12	13.0	19	137
09/29	20 58.8	-16 18	1.36	2.12	13.2	22	127

(635) Vundtia (a=3.14 AU, e=0.08, i=11.0°, H = 9.0)

As with most large Main Belt asteroids, a lot is known about Vundtia such as its taxonomy (either a C- or B-type), low albedo (0.045) and diameter (~98 km). It has a long rotation period that is estimated to be around 11.8 h in length with a low 0.15-0.30 magnitude amplitude. Vundtia can be observed from an extreme minimum phase angle of 0.04 degrees on September 26 UT. A peak brightness of V = 13.0 is also reached on that date.

DATE	RA	DEC	Δ	r	V	PH	Elong
07/01	00 15.1	+05 30	2.78	3.01	14.6	20	93
07/11	00 21.2	+05 56	2.64	3.01	14.5	19	101
07/21	00 25.8	+06 08	2.50	3.00	14.3	18	110
07/31	00 28.6	+06 07	2.37	2.99	14.2	17	119
08/10	00 29.4	+05 50	2.26	2.99	14.0	16	128
08/20	00 28.2	+05 16	2.15	2.98	13.8	13	138
08/30	00 25.1	+04 26	2.07	2.98	13.6	10	149

09/09 00 20.2 +03 21 2.00 2.97 13.4 6 160
09/19 00 14.2 +02 06 1.97 2.97 13.1 2 172
09/29 00 07.5 +00 45 1.96 2.96 13.0 1 176

(137799) 1999 YB (a=1.32 AU, e=0.07, i=6.8°, H = 18.5)

This ~0.6 km near-Earth asteroid has a low relative delta-V making it a possible future spacecraft targets. Spectroscopy has identified it as an Sq-type object. No lightcurve photometry has been published for it. Its phase angle ranges from 50 degrees at the start of the period to 6 degrees in early October.

DATE	RA	DEC	Δ	r	V	PH	Elong
07/01	00 29.0	-10 06	0.72	1.31	20.3	50	96
07/11	00 48.6	-08 34	0.68	1.32	20.1	49	100
07/21	01 05.6	-07 16	0.64	1.33	19.9	47	105
07/31	01 19.5	-06 14	0.59	1.34	19.7	45	111
08/10	01 29.5	-05 28	0.54	1.35	19.5	41	118
08/20	01 34.7	-05 00	0.50	1.36	19.2	37	125
08/30	01 34.1	-04 48	0.46	1.37	18.8	31	134
09/09	01 26.7	-04 48	0.43	1.38	18.5	24	146
09/19	01 12.8	-04 52	0.41	1.39	18.1	15	158
09/29	00 53.9	-04 46	0.40	1.40	17.8	7	169

(243566) 1995 SA (a=2.46 AU, e=0.64, i=19.9°, H = 17.4)

The WISE infrared space observatory observed 1995 SA and found a low albedo of ~0.09 suggesting a possible carbonaceous nature. The phase angle reached a maximum of 111 degrees in mid-April and will decrease to a minimum of 11 degrees in late August. Target Asteroids! members have already contributed a number of photometric observations.

DATE	RA	DEC	Δ	r	V	PH	Elong
07/01	22 32.5	+33 51	0.53	1.23	18.4	54	100
07/11	22 23.5	+29 48	0.54	1.32	18.3	45	112
07/21	22 11.2	+24 51	0.56	1.41	18.3	36	125
07/31	21 56.8	+19 03	0.58	1.50	18.2	26	138
08/10	21 42.7	+12 45	0.63	1.59	18.2	18	151
08/20	21 30.7	+06 36	0.70	1.68	18.4	12	160
08/30	21 22.1	+01 09	0.79	1.77	18.7	11	160
09/09	21 17.3	-03 17	0.91	1.86	19.3	14	152
09/19	21 16.2	-06 41	1.05	1.94	19.8	18	143
09/29	21 18.3	-09 11	1.20	2.03	20.3	21	133

(276049) 2002 CE26 (a=2.23 AU, e=0.56, i=47.2°, H = 16.8)

This near-Earth asteroid is presumed to be carbonaceous due to its low albedo of 0.03 based on WISE observations. It is also a binary asteroid whose primary rotates in 3.293 h with a very small 0.06 magnitude amplitude.

DATE	RA	DEC	Δ	r	V	PH	Elong
07/01	21 40.6	+44 27	1.09	1.62	19.6	38	100
07/11	21 46.0	+46 10	0.94	1.54	19.2	39	104
07/21	21 49.2	+47 22	0.79	1.47	18.7	41	108
07/31	21 49.5	+47 39	0.64	1.39	18.2	42	112
08/10	21 46.7	+46 18	0.49	1.31	17.5	43	118
08/20	21 40.2	+41 28	0.34	1.24	16.5	41	126
08/30	21 29.0	+26 25	0.20	1.17	15.0	33	141
09/04	21 20.9	+08 00	0.15	1.14	14.0	23	153
09/09	21 09.7	-23 18	0.12	1.11	13.8	30	146
09/14	20 52.3	-55 08	0.14	1.09	14.7	53	120
09/19	20 18.6	-74 15	0.19	1.06	15.8	68	101
09/24	18 39.9	-83 58	0.26	1.04	16.5	75	91
09/29	13 40.6	-86 04	0.32	1.02	17.1	77	84

(285944) 2001 RZ11 (a=2.19 AU, e=0.50, i=53.1°, H = 16.4)

2001 RZ11 will be one of the brightest near-Earth asteroids this summer. The asteroid starts the period deep in the southern sky at phase angles up to 70 degrees. On August 18, it will peak at magnitude V = 12.0 and reach a minimum phase angle of 11 degrees as the asteroid rockets to the north.

DATE	RA	DEC	Δ	r	V	PH	Elong
07/01	05 00.2	-53 06	0.73	1.14	18.2	61	79
07/11	04 54.0	-53 23	0.60	1.10	17.8	65	82
07/21	04 40.8	-54 25	0.45	1.09	17.3	69	86
07/31	04 06.8	-56 50	0.30	1.08	16.4	69	94
08/10	01 46.5	-59 40	0.15	1.09	14.5	57	115
08/14	23 18.6	-50 47	0.10	1.09	13.2	38	138
08/18	21 06.0	-19 46	0.09	1.10	12.0	11	168
08/22	19 57.0	+09 08	1.12	1.11	13.5	34	142
08/26	19 22.3	+22 59	0.18	1.12	14.6	47	126
08/30	19 03.1	+29 41	0.24	1.14	15.5	52	116
09/09	18 42.6	+36 30	0.40	1.18	16.8	55	105
09/19	18 38.1	+39 00	0.56	1.22	17.5	54	99
09/29	18 40.8	+40 13	0.71	1.28	18.1	51	95

C/2013 UQ4 (Catalina) (a=60.5 AU, e=0.98, i=145.3°, H = 12.9)

We usually don't list comets as an object for the Target Asteroids! program. C/2013 UQ4 is different. It has a large nucleus and its activity is rapidly decreasing. It is very possible, it will be inactive soon, of not already. This gives us an excellent opportunity to measure the photometric, rotational and light scattering properties of a comet nucleus.

DATE	RA	DEC	Δ	r	V	PH	Elong	
07/01	00 16.1	+26 10	0.48	1.08	13.9	69	85	
07/11	20 17.5	+63 15	0.32	1.08	12.9	69	94	
07/21	14 57.9	+41 59	0.51	1.11	13.9	66	86	
07/31	14 16.3	+27 56	0.84	1.16	14.8	58	77	
08/10	14 03.8	+21 36	1.18	1.22	15.4	50	67	
08/20	13 59.1	+17 58	1.50	1.30	15.9	42	59	
08/30	13 57.8	+15 35	1.80	1.39	16.2	34	50	
09/09	13 58.5	+13 51	2.07	1.49	16.5	27	43	
09/19	14 00.4	+12 33	2.31	1.60	16.7	21	35	
09/29	14 03.1	+11 33	2.52	1.71	16.9	16	29	