

Phase Function Photometry for (101955) Bennu

Compiled by C. Hergenrother

Last Updated: 2013-11-14

(101955) Bennu data

YEAR	Month	Day	V(delta,r,phase)	V(1,1,phase)	FILTER	Observer	Delta
2005	9	14.40	16.22	23.10	w	Hergenrother	0.041
2005	9	15.41	16.22	23.27	w	Hergenrother	0.038
2005	9	16.40	16.26	23.38	w	Hergenrother	0.037
2005	9	17.41	16.38	23.63	w	Hergenrother	0.035
2006	1	5.52	21.54	23.72	V	Hergenrother	0.376
2006	4	30.24	19.20	21.14	R	Hergenrother	0.313
2006	5	22.27	20.49	21.79	R	Hergenrother	0.411
2006	5	26.19	20.77	21.95	R	Hergenrother	0.432
2006	6	19.19	21.97	22.49	R	Hergenrother	0.580
2011	9	26.48	20.74	24.37	R	Hergenrother	0.195
2011	11	23.52	22.16	24.28	R	Hergenrother	0.418
2012	1	19.54	22.01	23.29	R	Hergenrother	0.531
2012	1	26.53	21.58	22.80	R	Hergenrother	0.527
2012	1	27.54	21.72	22.93	R	Hergenrother	0.526
2012	2	23.51	21.96	23.24	R	Hergenrother	0.477
2012	3	27.00	20.71	22.34	R	Hergenrother	0.377
2012	3	28.00	20.45	22.09	R	Hergenrother	0.374

NOTE: all data has been converted from its original filter band to V using the following color in

NOTE: only the data from 9/2005 are corrected for rotational lightcurve

NOTE: observer Hergenrother is Carl Hergenrother (Kuiper 1.5-m and VATT 1.8-m, Univ. of Ari

(253) Mathilde

YEAR	Month	Day	V(delta,r,phase)	V(1,1,phase)	FILTER	Observer	Delta
1995	2	26.4		10.466		Mottola	2.361
1995	3	10.7		10.673		Mottola	2.383
1995	2	5.4		10.812		Mottola	2.428
1995	3	31.1		10.976		Mottola	2.519
1995	3	29.1		11.235		Mottola	2.852
				12.216		Clark	
				12.217		Clark	
				12.245		Clark	
				12.308		Clark	
				12.353		Clark	

12.474	Clark
16.643	Clark
16.643	Clark

NOTE: Mottola data is ground-based telescopic data published in Mottola et al. 1995. 'The slo'
NOTE: Clark data is from NEAR Multispectral Imager (MSI) published in Clark et al. 1999. 'NEAF

r	Phase Angle	Mag Error
1.025	60.10	0.10
1.022	63.40	0.10
1.019	67.00	0.10
1.016	71.20	0.10
0.975	80.20	0.30
1.307	15.00	0.15
1.338	31.80	0.20
1.342	34.00	0.20
1.355	43.40	0.20
0.965	95.60	0.20
0.903	88.86	0.30
1.043	68.73	0.30
1.067	66.64	0.30
1.070	66.34	0.30
1.159	57.61	0.30
1.253	40.72	0.30
1.256	39.99	0.30

Indices: V-R = +0.36, V-w = +0.30 where w is ECAS w.

zona, AZ, USA)

r	Phase Angle	Mag Error
3.349	1.21	
3.349	4.65	
3.348	7.11	
3.345	10.79	
3.336	16.47	
	41.04	
	41.09	
	41.31	
	42.47	
	43.4	

46.63
134.58
135.12

w rotation of 253 Mathilde', Planet. Space Sci. 43, 1609-1613.
R photometry of asteroid 253 Mathilde', Icarus 140, 53-65.