

THE MINOR PLANET BULLETIN

BULLETIN OF THE MINOR PLANETS SECTION OF THE
ASSOCIATION OF LUNAR AND PLANETARY OBSERVERS

VOLUME 34, NUMBER 4, A.D. 2007 OCTOBER-DECEMBER

95.

SUGGESTED REVISED H VALUES OF SELECTED ASTEROIDS: REPORT NUMBER 3

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(Received: 1 March Revised: 5 June)

We report results obtained by the "Magnitude Alert Project" (MAP) during the first ten years of activity, from 1996 to 2006. As of December 31, 2006 the MAP Database contained 430 asteroids and 4927 measures. 16 minor planets, for which visual and CCD measures indicate an average difference of H magnitude from the current predicted values, have been observed at least during three oppositions. These confirmed discrepancies are from 0.3 to 2.6 magnitudes. We suggest a revision of their catalogued H magnitude to permit better predicted magnitudes in ephemerides of these objects, notably by the Minor Planet Center.

Since its founding at late 1996, the Magnitude Alert Project (MAP) begun by Lawrence continuously accumulated many visual and CCD measures of minor planet magnitudes. The total number of minor planets observed to have a discrepancy of at least 0.3 magnitude between the predicted and the observed magnitudes has increased each year. The MAP is managed jointly by the ALPO Minor Planet Section (<http://www.lpl.arizona.edu/~rhill/alpo/minplan.html>) and by the French AUDE Association (Association des Utilisateurs de Détecteurs Electroniques)

As of December 31, 2006 the MAP Database contained 4927 measures summarized as 3411 entries (consisting of individual or averaged measures). A total of 430 asteroids suspected to have a magnitude discrepancy are included. A first step when a discrepancy is reported is to confirm that a discrepancy exists. Follow-up observations find that 72 / 430 (or 17%) of the initial discrepancies are not confirmed. Thus we apply very careful

TABLE I. Summary of Results

Minor Planet	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(612) Veronika	11.2	-0.4	10.8	3	15	3	?
(881) Athene	10.3	1.2	11.5	4	13	4	0.27
(921) Jovita	10.6	-0.9	9.7	6	30	5	0.06
(1166) Sakuntala	8.8	1.1	9.9	4	18	4	0.20
(1239) Queteleta	12.5	-0.6	11.9	3	10	4	?
(1296) Andree	10.9	0.4	11.3	4	10	4	0.14
(1353) Maartje	10.4	-0.4	10.0	4	12	2	0.20
(1384) Kniertje	9.7	1.7	11.4	3	121	6	0.26
(1388) Aphrodite	8.9	1.6	10.5	3	12	4	0.25
(1444) Pannonia	9.1	2.6	11.7	5	457	8	0.29
(1656) Suomi	12.4	0.5	12.9	3	9	3	0.10
(3904) Honda	11.3	0.7	12.0	4	42	8	0.14
(4483) Petofi	11.9	1.1	13.0	4	19	6	0.49
(5641) Mc Cleese	12.7	1.4	14.1	3	15	5	0.06
(6354) Vangelis	11.8	0.5	12.3	3	12	3	0.18
(9117) Aude	12.4	0.8	13.2	5	36	9	0.13

Column Legends:

M.P. = Number and name of the asteroid

- (1) = H MPC value
- (2) = MAP difference of magnitude
- (3) = Revised H value by the MAP
- (4) = Total of observed oppositions
- (5) = Total of MAP measures
- (6) = Total of observers
- (7) = Half-amplitude of the known light variability

practices to ensure the validity of our results. Statistically, about 1 asteroid on 10 among thousands asteroids observed by the MAP Observers seems to be in error.

Since the last report in the MPB on October 2001, the MAP pursues its quest for better accuracy of the received data. Nearly all the GSC measures have been removed for the computation of the revised H magnitudes; The USNO unfiltered CCD measures were corrected by $R-V = +0.4$ mag. The CCD observers were requested to use preferably the reference stars of the LONEOS or Tycho-2 catalogs. A website maintained by Bernard Guillaud-Saumur gives the dates of conjunctions between the MAP objects and the LONEOS stars in some tables which permit to image them together for a better accuracy. These lists are available at :

<http://www.astrobg.dyndns.org/astro/MAP/index.htm>

Otherwise, all the MAP visual observers have observed 900 to 4500 asteroids and have a good experience in the estimation of the

Minor Planet Bulletin 34 (2007)

Available on line <http://www.minorplanetobserver.com/mpb/default.htm>

visual magnitudes of the minor planets. Lastly, Faure has CCD tests in progress to find an easy method which would permit an accuracy of at least 0.1 magnitude. For more information, the reader may go to the decennial MAP Report : http://astrosurf.com/aude/map/MAP_REPORT_1996-2006_ENGLISH.htm

Various analyses of our data show an averaged difference of only 0.1 to 0.2 magnitude between visual and corrected unfiltered CCD measures now made more frequently with accurate reference stars. Thanks to other analyses on 2658 known lightcurves, the impact of the maximum light half-amplitude was found statistically smaller than 0.3 magnitude for nearly 90% of the concerned asteroids. More, they are at the maximum variability just during a short time of their rotation period (9 hours in average) and not at each opposition.

This recapitulating report of MAP Results include the 16 objects for which the measures show a continual difference between observed and predicted magnitudes at least during 3 oppositions and by 3 observers. This consistent offset implies the necessity for the H magnitude to be revised. Our reported offset values are based on the average magnitude discrepancy of all the discrepancies calculated night by night for each asteroid. The various averages reduce statistically the eventual errors.

Table I summarizes the results for the 16 asteroids.

Table II provides information on the observers of these objects.

Table III gives the details on the measures producing the results of these 16 asteroids. With the aim of reducing space in the article, this table only contains the averaged difference of magnitude of all the individual measures made during a same night, from 12H UT to 12H UT of the next day.

TABLE II: List of the Observers

Name Observer	Country	T.O.	Tel.	CCD camera
AINWORTH Tony	Australia	C	T 23cm	Sbig ST7
ANTONINI Pierre	France	C	T 26cm	Hi-Sis22
BARNEY Pereghy	Australia	C	R 15cm	Pixcel 237
BEMBRICK Colin	Australia	C	T 40cm	with KAF1600
BOOKAMER Richard	USA	V	T 41cm	
BOSCH Jean-Gabriel	Swiss	C	T 20cm	?
BROCHARD Emmanuel	France	C	T 20cm	Audine K401E
CAHILL Allan	Great-Br.	C	T 20cm	Starlight MX5
CHASSAGNE Robin	France	C	T 21cm	Hi-Sis22
CHESNEY Dennis	USA	C	T 25cm	?
CHRISTOPHE Bernard	France	C	T 60cm	Hi-Sis22
DEMEAUTIS Christ.	France	C	T 20cm	Audine KAF400
FAURE Gérard	France	V/C	T 20cm	Sbig ST6
FLETCHER John	Great-Br.	C	T 25cm	Starlight MX916
GARRETT Lawrence	USA	V	T 32cm	
HARVEY Roger	USA	V	T 73cm	
LEYRAT Cédric	France	C	T 30cm	Sbig ST7
LLAPASSET Jean-M.	France	C	T 28cm	Sbig ST7
MARTINOLE Philippe	France	C	T 25cm	Hi-Sis22
MORATA Didier	France	C	T 30cm	Hi-Sis22
MORATA Stéphane	France	C	T 30cm	Hi-Sis22
PILCHER Frederick	USA	V	T 35cm	
PISES Observatory	France	C	T 25cm	Alpha 500
PONCY Raymond	France	C	T 20cm	?
ROY René	France	C	T 25cm	Hi-Sis22
SALTHOUSE Andrew	USA	V	T 44cm	
SPOSETTI Stefano	Swiss	C	T 20cm	Hi-Sis22
THISY Olivier	France	C	T 20cm	Sbig ST7E
VAN DEN ABEEEL F.	Belgium	C	T 20cm	Audine KAF400

T.O.= Type of observations : C = CCD and V = visual

TABLE III: Record of Observations

Column Legends:

Dates = observation date (year-month-day.part of day)

(1) = Magnitude type:

AMv=Visual magnitude with asteroid comparison

GMt= Unfiltered CCD mag with GSC corrected by Tycho 2

GMv=Visual magnitude with GSC corrected by Tycho 2

SMr=Unfiltered CCD mag with R mag USNO-SA comparison

TMv=Visual magnitude with Tycho 2 (mag V comparison)

UMv=Visual magnitude with USNO-SA comparison

UMr=Unfiltered CCD mag with R mag USNO-A comparison

UMu= Unfiltered CCD magnitude with USNO-SA comparison

(2) = Predicted V magnitude

(3) = MAP magnitude differences. Averaged by night :

x.xx F = x.xx magnitude fainter than predicted

-x.xx B = x.xx magnitude brighter than predicted

Adjustement V-R = 0.4 mag for the UMr and SMr magnitude type (USNO stars)

Adjustement $\pm 0.x$ magnitude for the GMv magnitudes

(4). = Number of measures made during the given day

The evolution of the official H magnitudes follows the record of observations for each asteroid, with the years of the publication of the MPC magnitudes in the "Ephemerides of Minor Planets"

Dates (1) (2) (3) (4) Observers

(612) Veronika

00-06-01.9	AMv	15.4	-0.30B	2	Gérard FAURE
00-07-31.9	UMr	16.1	-0.67B	3	René ROY
01-10-16.0	AMv	14.4	-0.20B	1	Andrew SALTHOUSE
06-06-24.0	AMv	15.0	-0.40B	2	Gérard FAURE
06-07-01.9	TMu	14.9	-0.54B	7	Gérard FAURE

H = 11.2 (EMP 1988 => 2006)

H diff = 0.42 B Revised H MAP = 10.8

(881) Athene

89-09-02.1	AMv	13.1	1.40F	1	F.PILCHER
89-09-08.1	AMv	13.1	1.40F	1	F.PILCHER
00-02-27.9	UMr	15.0	1.55F	2	C.DEMEAUTIS
02-11-11.9	AMv	13.7	1.65F	2	Gérard FAURE
06-06-11.0	TMu	14.7	1.09F	4	Gérard FAURE
06-07-02.0	TMu	14.5	0.56F	1	Gérard FAURE
06-07-27.0	AMv	14.3	1.40F	1	Gérard FAURE
06-09-23.1	GMv	13.4	0.70F	1	Richard BOOKAMER

The 1989 discrepancy of magnitude was B/0.7 with H = 2.1 mag fainter than the actual H magnitude.

H = 12.4 (EMP 1988 => 1991); H = 11.6 (EMP 1992 => 97); H = 10.3 (EMP 98 => 2006)

H diff = 1.22 F Revised H MAP = 11.5

(921) Jovita

98-10-03.1 SMr 15.5 -1.30B 2 Dennis CHESNEY
 98-10-24.0 AMv 15.9 -1.50B 2 Lawrence.GARRETT
 00-12-27.0 AMv 16.1 -0.87B 3 Gérard FAURE
 01-02-19.9 UMu 16.8 -0.70B 2 J-Gabriel BOSCH
 03-05-29.9 AMv 14.7 -0.63B 3 Gérard FAURE
 03-05-30.9 AMv 14.7 -0.55B 2 Gérard FAURE
 03-06-07.1 AMv 14.8 -0.70B 1 Lawrence GARRETT
 03-06-23.9 UMr 15.1 -0.70B 10 B.CHRISTOPHE
 04-09-04.8 UMr 14.8 -0.70B 30 René ROY
 04-11-11.9 TMu 15.8 -0.86B 5 Gérard FAURE

H = 10.03 (EMP 1988 => 1991); H = 10.6 (EMP1992 => 2006)
 H MPC = 10.6 H diff = 0.87 B
 Revised H MAP = 9.7

(1166) Sakuntala

98-02-26.2 AMv 13.1 0.97F 3 Andrew SALTHOUSE
 98-02-26.9 AMv 13.1 1.40F 2 Gérard FAURE
 98-02-27.1 AMv 13.1 1.40F 1 Andrew SALTHOUSE
 98-03-01.0 AMv 13.1 1.10F 1 Lawrence GARRETT
 98-03-06.1 AMv 13.1 0.90F 1 Andrew SALTHOUSE
 98-05-18.8 SMr 14.0 1.33F 2 René ROY
 99-07-08.1 AMv 11.1 1.00F 1 Andrew SALTHOUSE
 99-07-12.1 AMv 11.0 1.50F 1 Andrew SALTHOUSE
 99-07-15.1 AMv 10.9 1.60F 1 Andrew SALTHOUSE
 00-11-24.1 AMv 13.2 0.90F 1 Andrew SALTHOUSE
 00-11-29.2 AMv 13.1 0.90F 1 Andrew SALTHOUSE
 00-12-03.1 AMv 13.0 1.00F 1 Andrew SALTHOUSE
 03-07-18.9 TMv 10.6 1.15F 2 Gérard FAURE

H = 11.5 (EMP 1988 => 1991); H = 11.3 (EMP 1992 => 97); H = 8.8 (EMP 1998 => 2006)
 H diff = 1.15 F Revised H MAP = 9.9

(1239) Queteleta

97-01-06.1 AMv 14.4 -0.50B 2 F.PILCHER
 97-01-08.1 AMv 14.3 -0.50B 2 F.PILCHER
 98-05-18.9 SMr 16.6 -0.40B 1 Pierre ANTONINI
 99-08-15.8 SMr 17.3 -0.70B 3 René ROY
 00-12-26.8 AMv 16.2 -0.90B 2 Gérard FAURE

H = 12.6 (EMP 1988 => 1991); H = 12.5 (EMP 1992 => 2006)
 H diff = 0.60 B Revised H MAP = 11.9

(1296) Andree

87-01-30.0 AMv 13.4 0.50F 3 F.PILCHER
 87-02-03.à AMv 13.3 0.50F 3 F.PILCHER
 97-12-28.0 AMv 13.2 0.50F 1 Lawrence GARRETT
 97-12-29.8 AMv 13.2 0.40F 1 Gérard FAURE
 99-05-16.0 AMv 14.3 0.30F 1 Gérard FAURE
 06-03-05.1 GMv 13.6 0.20F 1 Richard BOOKAMER

B(1.0)=12.5 (EMP 1987); H = 11.5 (EMP 1988 => 1991); H = 10.9 (EMP 1992 => 2006)
 H diff = 0.40 F Revised H MAP = 11.3

(1353) Maartje

00-09-28.1 AMv 14.3 -0.40B 2 Andrew SALTHOUSE
 00-09-29.1 AMv 14.3 -0.60B 1 Andrew SALTHOUSE
 00-09-30.1 AMv 14.3 -0.60B 1 Andrew SALTHOUSE
 02-01-11.9 AMv 15.3 0.05F 2 Gérard FAURE
 05-08-01.0 AMv 14.8 -0.20B 1 Gérard FAURE
 06-09-02.1 TMu 16.2 -0.76B 5 Gérard FAURE

H = 10.0 (EMP 1988 => 1991); H = 10.4 (EMP 1992 => 2006)
 H diff = 0.42 B Revised H MAP = 10.0

(1384) Kniertje

98-03-28.0 AMv 14.6 1.20F 1 Gérard FAURE
 98-04-19.9 SMr 14.2 1.90F 1 Pierre ANTONINI
 98-05-15.8 SMr 14.4 1.73F 3 Stefano SPOSETTI
 98-05-16.9 AMv 14.4 1.30F 1 Gérard FAURE
 98-05-17.9 SMr 14.4 1.80F 2 Jean-M.LLAPASSET
 98-05-18.8 SMr 14.4 1.88F 2 Jean-M.LLAPASSET
 98-05-18.9 SMr 14.4 1.88F 2 Pierre ANTONINI
 98-06-19.8 SMr 15.0 1.65F 2 Pierre ANTONINI
 98-06-26.9 SMr 15.1 1.90F 2 René ROY
 00-10-31.1 AMv 12.6 1.10F 1 Andrew SALTHOUSE
 00-11-01.1 AMv 12.6 0.90F 2 Andrew SALTHOUSE
 00-11-02.0 AMv 12.6 0.90F 2 Andrew SALTHOUSE
 03-06-25.9 UMr 14.4 1.41F 16 René ROY
 03-07-05.9 UMr 14.5 1.35F 12 René ROY
 03-07-06.9 UMr 14.5 1.35F 44 René ROY
 03-07-17.9 UMr 14.7 1.45F 30 René ROY

H = 11.7 (EMP 1988 => 1991); H = 11.2 (EMP 1992 => 97); H = 9.7 (EMP98 => 2006)
 H diff = 1.45 F Revised H MAP = 11.4

(1388) Aphrodite

98-10-15.9 UMr 13.0 1.05F 2 Gérard FAURE
 98-10-19.9 SMr 12.9 2.10F 3 Pierre ANTONINI
 98-10-23.2 SMr 12.9 1.90F 2 Dennis CHESNEY
 98-10-26.0 AMv 12.9 1.60F 2 Lawrence GARRETT
 04-12-13.0 AMv 13.6 1.60F 1 Gérard FAURE
 06-04-22.9 AMv 14.4 1.40F 2 Gérard FAURE

H = 11.10 (EMP 1988 => 1991); H = 10.81 (EMP 1992 => 97); H = 8.89 (EMP 98 => 2006)
 H diff = 1.60 F Revised H MAP = 10.5

(1444) Pannonia

99-01-24.7 SMr 15.0 2.77F 3 René ROY
 00-02-27.8 SMr 14.2 2.55F 2 C.DEMEAUTIS
 01-04-17.x GMT 13.4 2.92F 78 BEMBRICK and al
 01-04-27.x GMT 13.3 2.29F 63 BEMBRICK and al
 01-05-02.x GMT 13.3 2.54F 35 BEMBRICK and al
 02-08-14.0 AMv 13.2 2.30F 2 Gérard FAURE
 02-09-29.8 UMr 14.1 2.72F 6 B.CHRISTOPHE
 02-09-30.8 UMr 14.1 2.69F 14 B.CHRISTOPHE
 02-10-06.8 UMr 14.2 2.84F 100 B.CHRISTOPHE
 03-09-29.9 UMr 14.6 2.30F 147 Olivier THISY
 03-10-23.8 UMr 14.4 2.20F 3 Alan CAHILL
 03-10-26.7 UMr 14.4 2.55F 4 John FLETCHER

Bembrik et al = Bembrick, Ainworth and Barney
 H = 11.0 (EMP 1988 => 1991); H = 10.6 (EMP 1992 => 1997); H = 9.1 (EMP 1998 => 2006)
 H diff = 2.56 F Revised H MAP = 11.7

(1656) Suomi (Mars-crosser)

96-02-24.9	UMv	13.7	0.50F	2	Gérard FAURE
99-06-12.9	SMr	15.5	0.27F	3	René ROY
99-07-24.9	SMr	16.1	0.65F	2	B.CHRISTOPHE
04-04-25.1	AMv	14.9	0.50F	2	Gérard FAURE

H = 13.1 (EMP 1988 => 1991); H = 12.4 (EMP1992 => 2006)

H diff = 0.48 F Revised H MAP = 12.9

(3904) Honda

90-09-18.1	AMv	14.7	0.70F	1	Roger HARVEY
96-01-20.0	AMv	14.5	0.30F	1	Gérard FAURE
98-07-26.0	SMr	15.5	1.00F	2	Pierre ANTONINI
98-07-29.9	SMr	15.4	1.00F	2	Ph.MARTINOLE
98-07-30.0	SMr	15.4		2	Jean-M.LLAPASSET
98-08-05.0	SMr	15.3	1.10F	2	Jean-M.LLAPASSET
98-08-06.0	SMr	15.3	0.85F	2	Jean-M.LLAPASSET
98-08-07.0	SMr	15.3	1.05F	2	Jean-M.LLAPASSET
98-08-08.0	SMr	15.2	0.70F	2	Jean-M.LLAPASSET
98-08-16.9	SMr	15.0	0.70F	2	Jean-M.LLAPASSET
98-08-19.0	SMr	15.0	0.53F	2	Jean-M.LLAPASSET
98-08-19.9	SMr	15.0	0.70F	1	Pierre ANTONINI
98-08-21.0	SMr	14.9	0.75F	2	Jean-M.LLAPASSET
98-08-22.9	SMr	14.9	0.80F	1	B.CHRISTOPHE
98-08-23.9	SMr	14.9	0.60F	3	Ph.MARTINOLE
98-09-12.9	SMr	14.8	0.68F	11	Robin CHASSAGNE
04-02-15.9	UMr	15.0	0.13F	4	René ROY

The original discrepancies of 1990 and 1996 were respectively 0.8 and 0.4 magnitude.

H = 11.5 (EMP 1990 => 1991); H = 11.1 (EMP 1992 => 1997); H = 11.3 (EMP 1998 => 2006)

H diff = 0.72 F Revised H MAP = 12.0

(4483) Petofi (Hungaria)

91-06-08.1	AMv	14.7	1.00F	1	Roger HARVEY
99-06-12.9	SMr	14.8	1.58F	2	René ROY
99-06-12.9	UMv	14.8		2	Gérard FAURE
99-08-12.8	SMr	15.3	1.15F	2	B.CHRISTOPHE
02-08-???.?	AMv	13.4	0.80F	2	Andrew SALTHOUSE
02-09-07.0	AMv	13.4	0.80F	2	Lawrence GARRETT
02-09-29.8	UMr	13.7	1.45F	6	B.CHRISTOPHE
04-04-25.0	AMv	14.6	0.95F	2	Gérard FAURE

H = 11.9 (EMP 1992 -> 2006)

H diff = 1.10 F Revised H MAP = 13.0

(5641) Mc Cleese (Mars-crosser)

95-03-25.1	AMv	14.0	1.70F	1	Roger HARVEY
98-07-26.0	SMr	15.2	1.60F	2	Pierre ANTONINI
98-07-29.9	SMr	15.1	1.05F	2	Ph.MARTINOLE
98-08-19.9	SMr	14.5	1.90F	2	Pierre ANTONINI
98-08-25.8	SMr	14.3	1.83F	3	René ROY
00-04-02.0	AMv	13.9	1.00F	2	Gérard FAURE
00-04-19.8	SMr	14.2	0.80F	3	René ROY

H = 12.7 (EMP 1995 => 1997); H = 12.7 (EMP 1998 => 2006)

H diff = 1.41 F Revised H MAP = 14.1

MPB 2006-1: The Observatory of Ondrejov found a H = 14.4 (with assumed V-R = 0.4)

(6354) Vangelis

93-12-17.1	AMv	14.8	0.20F	6	Roger HARVEY
99-04-16.9	AMv	15.0	0.70F	2	Gérard FAURE
03-02-22.8	AMv	14.9	0.40F	1	Gérard FAURE
03-02-25.8	UMu	15.0	0.53F	3	F.VAN DEN ABBEEL

Original magnitude discrepancy in 1993 was 1.5 magnitude fainter with a H magnitude = 10.5 for the non-referenced object 1934 GA.

H = 11.5 (EMP 1997); H = 11.8 (EMP 1998 => 2006)

H diff = 0.46 F Revised H MAP = 12.3

(9117) Aude

97-03-30.9	UMu	15.0	0.50F	1	D+S.MORATA/R.ROY
97-04-13.9	UMu	15.4	0.70F	1	D+S.MORATA/R.ROY
97-04-29.9	UMu	15.8	0.90F	1	D+S.MORATA/R.ROY
97-05-01.8	UMu	15.8	0.80F	1	D+S.MORATA/R.ROY
97-05-02.8	UMu	15.8	1.00F	1	D+S.MORATA/R.ROY
97-05-29.8	UMu	16.4	1.30F	1	D+S.MORATA/R.ROY
98-07-23.0	SMu	16.2	0.97F	3	René ROY
99-12-07.7	SMu	16.1	0.50F	3	René ROY
01-03-30.9	SMr	15.7	0.86F	3	Cédric LEYRAT
01-04-01.1	SMr	15.7	0.72F	1	Pierre ANTONINI
01-04-01.1	SMr	15.7		4	Observ.des Pises
01-04-20.9	SMr	15.3	0.82F	3	Raymond PONCY
01-04-21.0	TMu	15.3		1	E.BROCHARD
01-04-26.9	AMv	15.3	0.30F	1	Gérard FAURE
01-05-27.9	UMu	15.9	0.85F	4	René ROY
01-06-13.8	SMu	16.3	0.98F	6	René ROY
03-12-01.2	AMv	14.9	0.60F	2	Roger HARVEY

H = 12.4 (EMP 2000 => 2006)

H diff = 0.80 F Revised H MAP = 13.2

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ALPO minor planet Section website:

<http://www.lpl.arizona.edu/~rhill/alpo/minplan.html>

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NOTE FROM THE RECORDER: This is a masterpiece of amateur accomplishment for which all the observers in the MAP program are to be congratulated. The thoroughly professional conduct of this program and its analysis has provided valuable corrections for the H values of the included asteroids and demonstrates that experienced visual observers can obtain magnitude measures correct within 0.1 to 0.3 magnitudes.

LIGHTCURVE ANALYSIS OF 335 ROBERTA

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(Received: 27 March)

Observations of asteroid 335 Roberta show the synodic period to be 12.054 ± 0.003 hr. The amplitude of the somewhat unusually shaped lightcurve is 0.13 ± 0.02 mag.

Independent observations of 335 Roberta were made by Warner and Roy in February 2007. Due to the period being nearly commensurate with 24 hours and bad weather, Warner asked for assistance from Reddy, Dyvig, and Heathcote in hopes of extending the coverage and resolving the period without ambiguity. The table below shows the observation details. The third column shows the phase angle and Phase Angle Bisector (PAB) longitude and latitude respectively.

Roy	March 3, 4	15.6, 118.8, -2.2
Warner	March 4, 5	15.8, 118.9, -2.2
Dyvig/Reddy	March 6	16.2, 119.0, -2.1
Heathcote	March 12	17.4, 119.5, -2.0

Several possible periods had been reported previously: 8.03 hr (Binzel 1987), 12.035 hr (Harris et al 1992), and 4.349 hr (Riccioli

2001). The combined data set from the 2007 apparition seems to verify the longest period. Using the Fourier analysis algorithm developed by Harris (1989), our data showed a synodic period of 12.054 ± 0.003 hr with a lightcurve amplitude of 0.13 ± 0.02 mag.

Acknowledgements

Funding for observations at the Palmer Divide Observatory is provided by NASA grant NNG06GI32G, National Science Foundation grant AST-0607505, and by a 2007 Gene Shoemaker NEO Grant from the Planetary Society.

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