

Opposition
Date (1983) Planet B Mag

Nov 1	899	Jokaste	13.7
Nov 4	1072	Malva	14.8
Nov 5	1283	Komsomolia	15.0
Nov 5	1537	Transylvania	14.9
Nov 6	1808	Bellerophon	15.6
Nov 8	121	Hermione	12.5
Nov 8	247	Eukrate	11.9
Nov 8	415	Palatia	12.0
Nov 9	563	Suleika	11.9
Nov 10	2340	Hathor	17.7
Nov 11	2057	Rosemary	16.6
Nov 14	758	Mancunia	13.0
Nov 16	634	Ute	14.3
Nov 19	1934	Jeffers	15.4
Dec 6	2041	Lancelot	16.7
Dec 8	574	Reginhild	14.4
Dec 8	2044	Wirt	15.0
Dec 11	1312	Vassar	15.2
Dec 14	2372	1977 RA8	16.0
Dec 16	1450	Raimonda	14.7
Dec 17	629	Bernardina	14.1
Dec 18	696	Leonora	13.2
Dec 30	69	Hesperia	11.1

IMPROVED ABSOLUTE MAGNITUDES OF MINOR PLANETS BY VISUAL PHOTOMETRY III.

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Abstract. The absolute magnitudes of minor planets 457, 577, 1060, and 1066 have been improved to, respectively, $B(1,0) = 11.9, 10.2, 13.6, 13.5$, by visual photometry.

This paper represents a continuation of the program previously described in References 1 and 2. In calendar 1982 the writer observed approximately 100 planets with $B \geq 14.0$ by visual means with the Celestron 14 (35.6 cm aperture, effective focal ratio 11) of the Walter H. Balcke Observatory at Illinois College. Relative magnitudes of different asteroids were compared via the B scale published in the annual ephemeris volume, and could be obtained to an accuracy $\pm 0^m.2$. Varying color indices B-V provide an additional source of error of standard deviation $\pm 0^m.1$ if the planets included in this report have a spread of B-V values comparable to those catalogued.³ Most of the planets surveyed had magnitudes agreeing with the predicted values within this limit of accuracy. The planets 457, 577, 1060, 1066 had observed magnitudes differing from those predicted by substantially greater amounts. For these it appears that the discrepancy is real and that absolute magnitudes computed from the observed apparent magnitudes will improve the published tables of $B(1,0)$.^{3,4}

All planets were observed several times. No variation above the limit of observational accuracy attributable to rotation or otherwise could be detected in any single night or in a time of a few days. The several observations over this time period have been averaged and this average value has been used to calculate the absolute magnitude $B(1,0)$.

The method of reduction from B_{observed} to $B(1,0)$ has been explained previously.¹ Numerical values of these calculated quantities appear in Table 1, whose right column contains the adopted improved values of

$B(1,0)$. The errors in these adopted values are of order $\pm 0^m.3$, sufficiently improved over previous determinations to recommend their inclusion in future tabulations.

Table 1

Planet	observation	No. of obs	B_{obs}	r	Δ	α	$B(1,0)$
457	1982 Nov 22	2	15.0	2.62	1.61	1°	11.9
457	1982 Dec 7-8	3	15.4	2.63	1.68	7	11.9
577	1982 Sep 19-29	8	14.0	2.91	1.92	4	10.2
1060	1982 Sep 22-23	4	15.0	1.91	0.91	6	13.6
1066	1982 Oct 10-15	8	14.9	1.93	0.94	5	13.5

References

1. Pilcher, F., Minor Planet Bulletin 8, 10-11 (1981 Apr-June).
2. Pilcher, F., Minor Planet Bulletin 9, 3 (1982 Jan-Mar).
3. Bowell, E., Gehrels, T., and Zellner, B., in Asteroids (T. Gehrels, Ed.), University of Arizona Press (1979), pp. 1108-1129.
4. Gehrels, T., in Surfaces and Interiors of Planets and Satellites (A. Dollfus, Ed.), Pergamon Press, London and New York (1970), chapt. 6.

SECTION NEWS

PROF. FREDERICK PILCHER, NEW RECORDER. Effective on 1983 January 15, Professor Frederick Pilcher, of the Physics Department, Illinois College, Jacksonville Illinois will become Recorder of the Minor Planets Section of the Association of Lunar and Planetary Observers. He has served as Assistant Recorder in the Section for several years, overseeing positional observations, and has contributed a number of articles to MPB on visual photometry as well. His annual list of planets at unusually favorable opposition, also published in MPB, has attracted widespread attention, even among professional astronomers. (Cf. p. 19ff of this issue). Professor Pilcher also has the distinction of having observed more minor planets with his own eyes than any other person in history.

Under Prof. Pilcher's leadership we look forward to many more scientifically-valuable contributions by Section members in the future. Let's give him our enthusiastic support!

MINOR PLANET BULLETIN TO CEASE WITH THIS ISSUE. As indicated in the previous issue (p. 18) this is the last issue of The Minor Planet Bulletin. Henceforth minor planet observations, reports, and other related information will be published in The Journal of the Association of Lunar and Planetary Observers. All items for future publication should be submitted first to the new Recorder, Prof. Frederick Pilcher, Physics Department, Jacksonville, Illinois 62650, U.S.A.

A WORD OF THANKS. Recorder Richard G. Hodgson would like to thank the many Section members who have contributed so much to the work of the Section over the past decade. Space does not permit naming them here, but their efforts are deeply appreciated. Keep up the good work and improve upon it if possible!

A FINAL PLUG. Over the years the outstanding publication called Tonight's Asteroids has been recommended to Section members. That recommendation is worth repeating now. Dr. J.U. Gunter gets this publication out about six times a year. It provides finder charts and historical information about the asteroids which amateurs might observe, and often includes comet news as well. U.S. observers can subscribe merely by sending several large-size self-addressed stamped envelopes to Dr. J.U. Gunter at 1411 N. Mangum Street, Durham, North Carolina 27701. There is no other cost for the publication thanks to the kindness of Dr. Gunter.

INDEX TO VOLUME 9

Articles, Observing Notes and News Reports

Cunningham, Clifford J., and Kaitting, Murray, "Photoelectric Photometry of Asteroid 18 Melpomene" 1-3

Hodgson, Richard G., comment on resignation, 18.

News Notes 4, 12, 18

Pilcher, Frederick, "General Report of Position Observations by the A.L.P.O. Minor Planets Section for the Year 1981" 5-10.

_____, _____, "Improved Absolute Magnitudes of Minor Planets by Visual Photometry II" 3.

_____, _____, "Improved Absolute Magnitudes of Minor Planets by Visual Photometry III" 21.

_____, _____, "Minor Planets at Unusually Favorable Opposition in 1983" 19-21.

_____, _____, and Tholen, David J., "216 Kleopatra: Visual Lightcurves of a Large Amplitude Asteroid" 13-17.

Section News 12, 18, 21-22.

Tholen, David J., letter regarding 108 Hecuba, 3.

Minor Planets (Note: This subject index does not include planets in the extensive general lists found in the General Report of Position Observations, or those at unusually favorable opposition, q.v.)

9 Metis, negative satellite observations, 18.

12 Victoria, ephemeris, 11.

15 Eunomia, 4.

18 Melpomene, photoelectric photometry, 1-3, 4.

42 Isis, ephemeris, 11.

49 Pales, ephemeris, 11.

50 Virginia, ephemeris, 11.

67 Asia, ephemeris, 11.

100 Hekate, ephemeris, 11.

108 Hecuba, magnitude, 3.

136 Austria, ephemeris, 11.

212 Medea, ephemeris, 11.

216 Kleopatra, visual photometry, 13-17

217 Eudora, ephemeris, 11.

330 Adalberta, non-existent, 4.

457 Alleghenia, visual photometry, 21.

519 Sylvania, ephemeris, 11.

577 Rhea, visual photometry, 3.

587 Hypsipyle, visual photometry, 3.

679 Pax, ephemeris, 11.

699 Hela, ephemeris, 11.

1009 Sirene, recovered, 18.

1060 Magnolia, visual photometry, 21.

1066 Lobelia, visual photometry, 21.

1192 Prisma, rotation period and amplitude, 12.

1403 Idelsonia, visual photometry, 3.

1665 Gaby, visual photometry, 3.

Unnumbered Minor Planets

1982 BB, an Apollo planet discovered, 4.

1982 CA, an Earth approaching planet discovered, 4.

1982 DA, an Amor planet discovered, 4.

1982 DB, an Apollo planet discovered, 4.

1982 DV, an Amor planet discovered, 12.

1982 FT, an Amor planet discovered, 12.

1982 HR, an Apollo planet discovered, 12.

1982 RA, an Amor planet discovered, 18.

1982 RB, an Amor planet discovered, 18.

1982 TA, an Apollo planet discovered, 18.

POSTSCRIPT

AND SO, after nine and one-half years, and nine volumes totaling 360 pages, The Minor Planet Bulletin is ended. As Editor, I express my thanks to all who have contributed observations and articles over the years, and to the many, both professional and non-professional astronomers, who have given helpful advice and support. For me it has been a rich and precious experience, and I know that I am going to miss it.

I also wish to express my thanks to the Sioux Center Shopper and its staff for the excellent work they have done over the years (since volume 3) in publishing the MPB.

Finally, to all our readers, I take this opportunity to wish you all a blessed and prosperous New Year. Keep on observing!

Richard G. Hodgson

Editor, MPB