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ASTEROID NEWS NOTES

David J. Tholen
Institute for Astronomy
University of Hawaii
Honolulu, HI 96822

Seventy-two New Asteroids

Through the August batch of Minor Planet Circulars (MPCs), 72 new asteroids were numbered, bringing the total to 3104. Most of the new additions are main-belt objects, but there are some notable exceptions. For the first time since (2608) Seneca, an Apollo/Amor has been numbered; in fact, the long dry spell was ended with the numbering of two such objects: Amor asteroid 1981 GA was numbered (3102), and Apollo asteroid 1982 BB was numbered (3103). Other non-main-belt objects include (3040) 1979 BA, a Mars crosser; (3043) San Diego, (3086) 1980 XE, and (3101) 1978 GB, all in the Hungaria region; (3092) 6550 P-L and (3095) 1980 RT₂, both in the Cybele region; and (3063) 1983 PV, a Trojan asteroid in the cloud leading Jupiter.

Earth-approaching Asteroid Update

If you think you're going to read about twin discoveries again... you're right! As mentioned in the last issue, 1983 TF₂ came along to destroy the pattern. Now, along comes 1983 SN to resurrect it! 1983 SN is presumably an Apollo object discovered by the Infrared Astronomical Satellite (IRAS) last September. Unfortunately, a five-day delay in reporting the object and poor weather at ground-based observatories prevented confirmation of the discovery. Nevertheless, of all the potential earth-approaching objects seen only by IRAS, this one has, by far, the most convincing evidence. Thus the Minor Planet Center gave it the official provisional designation 1983 SN.

Just when you thought 1983 was over, and the twin discoveries along with it, along come two new Apollo asteroid discoveries: 1984 KB

and 1984 KD, both discovered at Palomar by the Shoemakers. 1984 KD was a remarkable object, passing only 0.03 AU away from the earth on June 19 (as close as Comet IRAS-Araki-Alcock passed last year), and getting as bright as visual magnitude 11. Several visual observers reported variations in brightness of 0.3 to 0.4 mag in a time span of as little as 20 minutes.

Here's a quick review of the twins "born" during the last 14 months: 1983 LB and LC, 1983 RB and RD, 1983 SA and SN, 1983 TB and TF₂, 1983 VA and VB, and 1984 KB and KD. Remarkable, no?

New Names

Once again, the newly named asteroids nearly kept pace with the newly numbered objects during the May to July interval (no new names were reported in August). Fifty-five asteroids received new names. Among the honored are (2227) Otto Struve, named for the famous astronomer, and (3043) San Diego, named for the city in appreciation of its decision to install low pressure sodium vapor lamps, which will help Palomar Mountain retain darker skies. Incidentally, (3043) San Diego is now the highest numbered asteroid with a name. Last but not least, the founder of the Minor Planets Section of the Association of Lunar and Planetary Observers, Richard G. Hodgson, was honored with the naming of (2888) Hodgson. As all MPB readers know, he deserves the honor. Congratulations!

Not In Icarus

Icarus may be the official journal of solar system studies, but papers on asteroid research can also appear in other professional journals. One which may be of interest to MPB readers appeared in the January 22 issue of Science. Using the NASA Infrared Telescope Facility (IRTF) and an infrared photometer equipped with a circularly variable filter (CVF), D. P. Cruikshank and W. K. Hartmann observed two of the five known A-class asteroids over the wavelength range of 0.8 to 2.6 microns. The A-class asteroids had been identified by photometry over the wavelength range of 0.3 to 1.1 microns, and are characterized by extremely steep, reddish spectra between 0.3 and 0.7 microns. Longward of 0.7 microns, a strong absorption feature was present. The fact that the spectrum was not observed to turn back up or even flatten out at 1 micron suggested that olivine was present in abundance. Subsequent JHK photometry located the long-wavelength side of the absorption feature and strengthened the case for olivine. The higher-resolution CVF data confirm the earlier results, but in addition, the data show no sign whatsoever of any absorption feature due to pyroxene. Laboratory experiments have shown that such absorption features will be present if pyroxene exceeds ten percent of a olivine/pyroxene mixture. Therefore we can state that these two objects, (246) Asporina and (289) Nenetta, have relatively pure (less than ten percent pyroxene) olivine surfaces. The significance is that olivine is found in such a nearly pure state only as a result of differentiation processes, so we now have evidence that more asteroids have undergone

heating, melting, and differentiation. Just how extensively the asteroid belt, in general, is differentiated, is still a subject of some debate, and the answer has major implications for the evolution of the asteroid belt and solar system.

INDEX TO VOLUME 10

- Binzel, R.P., "Minor Planet Observing Programs" 4-6.
- Cunningham, C., "William Herschel and the First Two Asteroids" 3.
- _____, _____, "Statistics of Asteroids with Known Periods or Amplitudes" 27-30.
- Florence, W.B. and Zeigler, K.W., "Photoelectric Photometry of Asteroid 60 Echo" 33-34.
- Gehrels, T. and Binzel, R.P., "The Spacewatch Camera" 1-2.
- Jahn, J., "Computer Tracking Charts" 39-41.
- Harris, A.W. and Zappala, V., "Photoelectric Photometry Opportunities"
"March - June 1984" 7-8.
"June - October 1984" 22-24.
"November 1984 - January 1985" 37-38.
- Helin, E.F., "Earth-Crossing Asteroids: An Update" 19-21.
- Levy, D.H., Davis, D.R., Weidenschilling, S.J., Chapman, C.R., and Greenberg, R., "A Photometric Geodesy Program For Main Belt Asteroids" 31-33.
- LoGuirato, J., "Letter to the Editor" 39.
- Marsden, B.G., "Ephemeris for 2101 Adonis" 6.
- Panther, R. and Binzel, R.P., "The Phase Coefficient of 18 Melpomene as Determined by Visual Observations" 34-35.
- Pilcher, F., "New Book Announcement" 9.
- _____, _____, "General Report of Position Observations by the ALPO Minor Planets Section for the Year 1983" 11-18.
- Tholen, D.J., "Asteroid News Notes" 8-9.
"Asteroid News Notes" 18.
"Asteroid News Notes" 1-42.
- _____, _____, "Low Phase Angle Asteroids" 26-27.
38-39.
- _____, _____, "Book Review: Solar System Photometry Handbook" 35-36.
- Welch, D., Kaitting, M., and Cunningham, C., "Minor Planet Appulses" 24-26.
- Zeigler, K.W. and Tomlinson, D., "Photoelectric Photometry of Asteroid 694 Ekard" 21-22.

IMPORTANT ANNOUNCEMENT

Beginning with Volume 12 (the next issue) the Minor Planet Bulletin will be produced using an Apple Macintosh computer. This will provide faster word processing than the current system and will be more convenient for the editor to use. It will also allow authors with similar machines to submit their manuscripts in machine readable form (on disks). A description of the font styles and format for articles may be obtained from the editor. Any reader who has a Macintosh and would be willing to help typeset material for the MPB is encouraged (and begged) to contact the editor.

THE MINOR PLANET BULLETIN is the quarterly journal of the Minor Planets Section of the Association of Lunar and Planetary Observers. The Minor Planets Section is directed by its Recorder, Prof. Frederick Pilcher, Department of Physics, Illinois College, Jacksonville, IL 62650 USA. The MPB is edited and composed by Richard P. Binzel, Department of Astronomy, University of Texas, Austin, TX 78712 USA, and is distributed by Derald D. Nye, Route 7 Box 511, Tucson, AZ 85747 USA. The subscription rate is \$7.00 US a year (four issues) for surface mail and \$9.00 US a year for overseas air mail. Checks or money orders should be made payable to the "Minor Planet Bulletin". Subscription payments, address corrections, change of address notices, or other subscription business should be sent to Mr. Nye. The numbers in the upper-right corner of your mailing label indicate the volume and issue number with which your subscription expires.

Articles for submission to the MPB should be sent to the editor who also serves as the Photoelectric Photometry Coordinator. Please follow the guidelines given in "Instructions for Authors" in issue 11-1. Visual photometry observations should be sent to: Alain C. Porter, c/o Graduate Housing, California Institute of Technology, Pasadena, CA 99925. Positional observations of minor planets, any type of observation not covered above, and general information requests should be sent to the Recorder.

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The deadline for the next issue (12-1) is November 1, 1984. The deadline for issue 12-2 is February 1, 1984.