ANNUAL REPORT OF THE
CENTRAL BUREAU FOR ASTRONOMICAL TELEGRAMS

1992

During 1992 a total of 266 *Circulars* were issued, one less than in the record year of 1991. Consistent with the trend to concentrate on the electronic distribution of *Circulars*, the number of 'telegram books' issued, 32, was the smallest since 1976.

1992 was yet another record year for supernovae, with no fewer than 71 new designations given (two of them not until 1993, and two of the reports had to be retracted), eight more than in 1991. With five galactic novae, 1992 was down from 1991 but significantly better than average, and novae were also reported in the LMC and M31. The 27 cometary announcements put 1992 only in fourth place, and the 24 announcements of earth-approaching minor planets made 1992 a rather distant second to 1991.

In many respects, however, 1992 was the year of the solar system. It brought two slow-moving, distant, extraordinarily red, objects of asteroidal appearance: 1992 AD (now called 5145 Pholus) and 1992 QB_1. The former was quickly established as being almost at the distance of Saturn, near the perihelion point of an orbit like that (2060) Chiron, but in this case with its aphelion just beyond Neptune. The latter object was clearly even further beyond Neptune, giving it an absolute magnitude very similar to that of Pholus; although there was some speculation that 1992 QB_1 might also have its perihelion near Saturn, the observations accumulated by year's end made it reasonably clear that perihelion could scarcely be closer than Neptune, and there was a good chance that the alternate speculation that it was the first known member of the putative Kuiper Belt, always substantially beyond Neptune, was actually correct. Chiron, approaching its perihelion passage in 1996, continues to show ever more cometary attributes and now sports a well-developed tail. A particular surprise was the identification of the Apollo object (4015) 1979 VA with the lost periodic comet Wilson-Harrington (1949 III); the 1949 object can clearly be seen to have a tail on the appropriate pair of exposures in the original Palomar Sky Survey, but it looked asteroidal two nights later—as it has done consistently since the 1979 rediscovery. Finally, following another brief, intense display of Perseid meteors, and though generally expected to have returned more than a decade ago, Perseid parent comet P/Swift-Tuttle was recovered on Sept. 26 after years of tentative anticipation, as it came to perihelion on Dec. 12 little more than two weeks later than had been indicated by an alternate 20-year-old prediction, based on the assumption of identity with a comet briefly observed in 1737; P/Swift-Tuttle's return confirmed that there was a severe difficulty explaining a significant, mutually consistent set of astrometric observations in October 1862 and raised the very slight possibility of the comet's collision with the earth at its next return in 2126, although any reasonable chance of a hit during the next millennium could later be dispelled, thanks to the unequivocal identification of ancient Chinese observations in the years +188 and −68.

The Compton Gamma Ray Observatory continued to yield a lot of data, most notably of a strong, transient x-ray source in Perseus on Aug. 5 that could then be identified as a thirteenth-magnitude optical nova. The appearance of a 5-hour light modulation, and the indication of a significant increase in its amplitude after a few weeks and the likelihood of tidal instability of an accretion disk, suggested that any resultant compact object was at least half as massive again as the canonical neutron star.

The number of subscribers to the *Circulars* continues to show a general decline and in January was less than 700 for the first time. There was a rally up to a local maximum of 712 in June, but in December the number was down to a rather alarming 691. There was also a slight decline in the number of subscribers to the Computer Service, although this was up to 219 in December. The increase has been in the subset of the CS subscribers that receive the *Circulars* directly by e-mail; in December this subset amounted to 197.

Associate Director Daniel W. E. Green again prepared the lion's share of the *Circulars* during the year, and he was also responsible for the telegram accounts. Gareth V. Williams provided assistance with proof-reading and orbit computations. He also made a major improvement in the accounting software used by the Central Bureau. Although this scarcely affected the subscribers, the new system is considerably more "user friendly" than the old. Richard Thompson and Patrick Phelan continued to undertake the redissemination of telegrams to Australia and New Zealand, although it was decided to terminate this longstanding arrangement at the end of the year. Syuzo Isobe greatly improved the arrangements for the distribution of the *Circulars* electronically in Japan. Donna Thompson again served as the Bureau's chief administrative assistant, although some of this work was being taken over by Muazzez Lohmiller toward the end of the year. Tom Burbine also assisted from January to May, Heather Brown in June and July, Andrew Noymer in August, and Victoria Lassor from September onward.

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Director of the Bureau