

Central Bureau for Astronomical Telegrams
INTERNATIONAL ASTRONOMICAL UNION

Postal Address: Central Bureau for Astronomical Telegrams
Smithsonian Astrophysical Observatory, Cambridge, MA 02138, U.S.A.
TWX: 710-320-6842 ASTROGRAM CAM Telephone: (617) 864-5758

COMET FUJIKAWA (1978n)

The following precise positions have been reported:

| 1978 UT | α_{1950} | δ_{1950} | m_1 | Observer |
|---------------|---|-----------------|-------|----------|
| Oct. 13.50000 | 10 ^h 18 ^m 18 ^s .27 | + 8°53'19".4 | | Giclas |
| 14.13335 | 10 17 33.20 | + 9 25 16.1 | 10 | Milet |
| 14.19014 | 10 17 29.04 | + 9 28 00.3 | | " |

H. L. Giclas (Lowell Observatory). Measurer: M. L. Kantz.

B. Milet (Nice Observatory). Comet diffuse without condensation.

Total visual magnitude estimates by D. Machholz, Los Gatos, CA (25-cm reflector): Oct. 12.52 UT, 10.2; 13.53, 10.0.

The following sets of orbital elements are by the undersigned:

| | (A) | (B) | (C) |
|---------------------------|------------------|------------------|--------|
| T = 1978 Sept. 30.707 | 1978 Oct. 2.262 | 1978 Oct. 2.036 | ET |
| $\omega = 327^{\circ}984$ | $336^{\circ}261$ | $334^{\circ}044$ | |
| $\Omega = 46.049$ | 38.237 | 40.955 | 1950.0 |
| $i = 10.122$ | 7.963 | 8.682 | |
| $q = 0.73148$ | 0.80272 | 0.77857 | AU |
| $e = 1.0$ | 0.69971 | 0.82017 | |

The parabola (set A) satisfies the observations (except that of Oct. 11) within 3", the general ellipse (set B) all five observations within 6". Set C also satisfies the observations of set A within 3" and was derived on the assumption that the comet is identical with P/Denning 1 (1881 V) and that 11 revolutions have been made since the original discovery; approximate perturbations by the five outer planets have been taken into account. The following ephemeris is from set C:

| 1978 ET | α_{1950} | δ_{1950} | Δ | r | m_1 |
|---------|-------------------------------------|-----------------|----------|-------|-------|
| Oct. 9 | 10 ^h 25 ^m 9.0 | + 4°28'13" | 0.298 | 0.788 | 9.8 |
| 14 | 10 17.67 | + 9 19.0 | | | |
| 19 | 10 13.82 | +12 54.3 | 0.376 | 0.833 | 10.6 |
| 24 | 10 12.89 | +15 35.1 | | | |
| 29 | 10 13.71 | +17 38.9 | 0.453 | 0.908 | 11.4 |
| Nov. 3 | 10 15.38 | +19 18.7 | | | |
| 8 | 10 17.24 | +20 43.6 | 0.517 | 1.004 | 12.1 |

$$m_1 = 13.5 + 5 \log \Delta + 10 \log r$$

1978 October 17

Brian G. Marsden

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VV PUPPIS

W. J. Luyten, University of Minnesota; and J. Liebert, Steward Observatory, report that a substantial proper motion has been measured for the polarized variable star VV Pup. This object has previously been catalogued as BPM 72636, despite its lying in a crowded Milky Way field. The use of two Bruce plates at epochs 1899.33 and 1931.05 with two Palomar plates at 1954.23 and 1968.17 yielded $\mu_{\alpha} = +0''.025$, $\mu_{\delta} = -0''.097$ (per year), or $\mu = 0''.100$ in p.a. 165° (with estimated maximum error $\pm 0''.02$). This result supersedes the marginal measurement using only a 9-year baseline quoted by Liebert et al. (1978, *Astrophys. J.* Oct. 1 issue) and is in good agreement with the BPM catalogue measurement. A significant proper motion for VV Pup is consistent with the assumption that the system has a distance comparable to 100 pc and a luminosity at minimum light in the range of white dwarfs. Coordinated x-ray and optical observations should be emphasized.

4U 1700-37

J. Surdej, European Southern Observatory, reports that optical observations of HD 153919 = 4U 1700-37 made at La Silla on June 15 at binary phase 0.5 (x-ray source in front) show apparent oscillations with period 95 ± 3 min in accordance with the claim by A. Kruszewski (1978, *Inf. Bull. Variable Stars* No. 1424). This period is consistent with that of x-ray pulsations (cf. IAUC 3193). The amplitude is 0.01 magnitude in V and smaller or absent in U and B. The variations in a narrow-band filter centered on He II $\lambda 6686$ are of amplitude 0.01 magnitude and show a secondary minimum.

PERIODIC COMET ASHBROOK-JACKSON (1977g)

Total visual magnitude estimates: Sept. 24.23 UT, 11.3 (C. S. Morris, Prospect Hill Observatory, 15-cm reflector); 29.11, 11.7 (J. Bortle, Brooks Observatory, 32-cm reflector); Oct. 1.92, 11.3 (G. S. Keitch, Wrington, Avon, England, 20.3-cm reflector); 3.10, 11.5 (Bortle); 7.13, 11.6 (Bortle); 9.14, 11.6 (Bortle, tail 7' p.a. 230°).

PERIODIC COMET COMAS SOLÁ (1977n)

Total visual magnitude estimate by A. Hale, Annapolis, MD (41-cm reflector): Oct. 8.39 UT, 13.0, strongly condensed.

1978 October 17

Brian G. Marsden