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NEW FLARE STARS IN ORION

In the course of a program on searching flares in Orion 22 flare stars were discovered. Only 3 of them are listed in [1]. The observations were made on Kodak OaO emulsion (without filter) with the 70 cm Meniscus-type telescope of the Abastumani Astrophysical Observatory. 62 plates each with five successive exposures of six minutes were obtained in the period 15 Nov. 1969 - 8 Jan. 1970.

The plates obtained have been measured by means of the photometer MF-6 using NPS and Andrew's standards [2] for calibration curves.

Table 1 gives coordinates, pg magnitudes at minimum, pg amplitude and date of the flares and Tonantzintla Catalogue number from [1]. If the star was unvisible before the flare (because of its weakness), the magnitude in minimum was measured on the plate obtained with 30 min exposure, or was estimated on Palomar Atlas. These magnitudes are given in parentheses.

The majority of the discovered flare stars have a time of decline not longer than 20-30 minutes except of 2 stars (No 13 and 21 of Table 1), having a time of decline of several hours.

The details of observations will be published later.

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April, 1972

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References:

1. Haro, G., 1969, Bol.Obs. Tonantzintla y Tacubaya, 32, 59.
2. Andrews, A.D., 1970, Bol.Obs. Tonantzintla y Tacubaya, 34, 195.

Table 1

| No. | 1900 RA | D | Magn. pg | m pg | Date | Ident, |
|-----|--|---------|-------------|---------|--------|---------|
| 1 | 5 ^h 25 ^m 16 ^s | -7°02'8 | 17.7 | 1.2 | 5 Dec. | 1969 |
| 2 | 29 29 | -4 49.2 | (18.1) | 2.3 | 5 Dec. | |
| 3 | 28 52 | -4 56.2 | 16.6 | 0.6 | 6 Dec. | 200 |
| 4 | 28 43 | -5 57.0 | 15.6 | 0.9 | 8 Dec. | |
| 5 | 27 08 | -4 33.6 | 16.1 | 0.8 | 8 Dec. | |
| 6 | 28 16 | -5 03.7 | 17.0 | 1.1 | 1 Jan. | 1970 15 |
| 7 | 30 46 | -7 12.9 | 16.7 | 1.3 | 1 Jan. | |
| 8 | 26 30 | -5 09.7 | 17.3 | 0.8 | 5 Jan. | |
| 9 | 22 20 | -4 16.9 | (18.1) | 1.2 | 5 Jan. | |
| 10 | 24 08 | -5 44.3 | 16.8 | 0.8 | 5 Jan. | |
| 11 | 26 58 | -4 27.2 | 17.9 | 3.3 | 5 Jan. | |
| 12 | 29 08 | -5 01.4 | (21.0) | 5.3 | 5 Jan. | |
| 13 | 29 04 | -5 29.0 | 15.3 | 1.6 | 5 Jan. | |
| 14 | 29 58 | -6 30.8 | 17.9 | 0.9 | 6 Jan. | 46 |
| 15 | 27 45 | -4 02.2 | 17.0 | 1.0 | 6 Jan. | |
| 16 | 30 55 | -6 33.0 | 17.1 | 2.5 | 6 Jan. | |
| 17 | 31 34 | -6 30.2 | 16.9 | 0.7 | 6 Jan. | |
| 18 | 33 35 | -7 03.3 | 18.0 | 1.8 | 6 Jan. | |
| 19 | 29 41 | -4 21.8 | 17.9 | 1.8 | 6 Jan. | |
| 20 | 29 01 | -6 21.9 | (18.9) | 3.4 | 7 Jan. | |
| 21 | 30 57 | -6 44.9 | 17.7 | 3.2 | 7 Jan. | |
| 22 | 26 08 | -4 08.9 | 16.8 | 0.7 | 7 Jan. | |