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A NEW SOUTHERN FLARE STAR : CPD-72^o2640

During the survey program on red dwarf variables (BY Dra stars) that is being carried at ITA Observatory since 1971 (Ferraz Mello and Torres 1971) the star CPD-72^o2640 (CoD-72^o1700) was observed to flare in 1973 July 30.

This star was included in the survey after its classification by Uggren et al. (1972) like a M2Ve star. The program was not specifically designed to obtain flare data of the included stars, so we were not able to define a good light curve for the event (Fig.1).

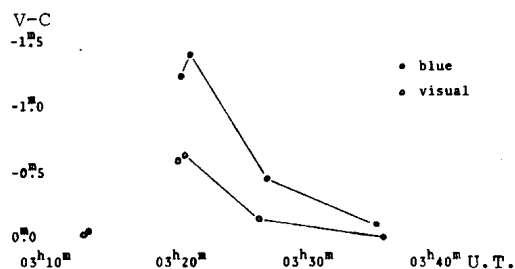


Fig. 1

Nevertheless, it was a very intense one (at least 1^m.4 in blue color), and the flare nature of CPD-72^o2640 may be considered certain.

IVO C. BUSKO
Instituto Astronômico
e Geofísico
São Paulo - Brasil

C.A. TORRES and G.R. QUAST
Observatorio Nacional
Rio de Janeiro - Brasil

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FLARE ACTIVITY OF EQ Vir

EQ Vir (HD118100, Sp K5Ve) was found to be a flare star by Ferraz Mello (1972) and this was confirmed also by Chugainov (1973b). It is also a BY Dra star (Ferraz Mello and Torres, 1971), with the improved period of 3.958 days for 1971 observations. Nevertheless, EQ Vir may have period variations like other BY Dra stars (Chugainov 1973a,b).

In order to study the flare activity of EQ Vir, it was monitored photoelectrically in the ultraviolet for a total of 11.9 hours, using the 20 inch Cassegrain reflector of ITA Astronomical Observatory at São Jose dos Campos (Brazil). The coverage is given in Table 1; all breaks greater than 2 minutes are considered.

Table 1

Date 1974	Begin (UT)	End	Date 1974	Begin (UT)	End
May 14	22 ^h 21 ^m 9	- 24 ^h 00 ^m 0	May 15	23 ^h 01 ^m 7	- 24 ^h 00 ^m 0
May 15	00 00.0	- 00 53.4	May 16	00 00.0	- 00 49.8
	01 27.6	- 04 14.3	June 19	22 55.0	- 24 00.0
	21 34.9	- 22 59.1	June 20	00 00.0	- 02 21.4

The time constant of the data system was always one second. Reduction methods used were the same as those described by Kunkel (1968,1973).

Only two events were observed, and the results are given in Table 2. They are, respectively: event U.T., U-magnitude of peak light after subtraction of the quiescent component, flare duration at 0.5 peak light, airmass, and the U-mag. of one standard deviation, measured prior to the onset of the flare.

Table 2

Event UT	U _{peak}	T _{0.5} (min.)	Airmass	U _σ
1974 May 15				
03 ^h 20 ^m	11.80	9.7	1.23	14.0
23 21.9	12.59	4.3	1.14	14.1

In spite of low quality, the data at hand suggest a high activity level of EQ Vir, possibly close to the upper limit for flare activity found in solar neighborhood flare stars (Kunkel 1970).

IVO C. BUSKO

CARLOS A.O. TORRES

Instituto Astronomico e Geofisico
Universidade de Sao Paulo-Brazil

Observatorio Nacional
Rio de Janeiro - Brazil

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