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**Strömgren photometry of suspected
low amplitude δ Sct stars**

Two stars, 21 LMi (HR 3974) and 40 Leo (HR 4054), included in the New Catalogue of Suspected Variable Stars (1982) as probable δ Sct stars, were observed photometrically by using the simultaneous uvby β Strömgren photometer attached to the 75 cm reflector at Sierra Nevada Observatory (Spain). In addition, two other stars β Leo (HR 4534) and FT Vir (HR 4746) were also observed. In total, we carried out eight nights of observation in the years 1988 and 1989. 21 LMi is listed in the New Catalogue of Suspected Variable Stars (1982) with an amplitude of luminosity variation of $\Delta V=0.^m05$, while $\Delta V=0.^m06$ is listed for 40 Leo in the same catalogue. β Leo is included in the list of probable δ Sct stars from Frolov (1970). Bartolini et al. (1981) reported an amplitude of $\Delta V=0.^m025$ with a period of $P=0.^d05$ for this star. FT Vir was found as variable by Eggen (1974) with $\Delta V=0.^m01$ and $P=0.^d05$.

Table 1 lists, for each star, the $b-y$, m_1 , c_1 and β indices from Hauck & Mermilliod (1990). In addition, the magnitudes in the V filter and spectral types, from the Bright Star Catalogue (1982), are presented in columns 3 and 4, respectively. Spectral types of A6V for 21 LMi and A2V for β Leo are found from the calibrations of Gray & Garrison (1987, 1989b). For FT Vir, Breger (1979) gives it as F0n, while Peniche et al. (1981) reported this star as F4III-II. Furthermore, the calibrations from Gray & Garrison (1989a) indicate that FT Vir must be of a spectral type later than F2. Figure 1 shows the sample of δ Sct stars, from López de Coca et al. (1990), in the H-R diagram. The blue and red edges are from Breger (1979). These edges may not be absolute, but are borders to indicate the regions beyond which pulsation is less probable. As can be seen in the figure, the three stars 40 Leo, β Leo and FT Vir lie outside the drawn borders. Only the star 21 LMi is located within the instability strip.

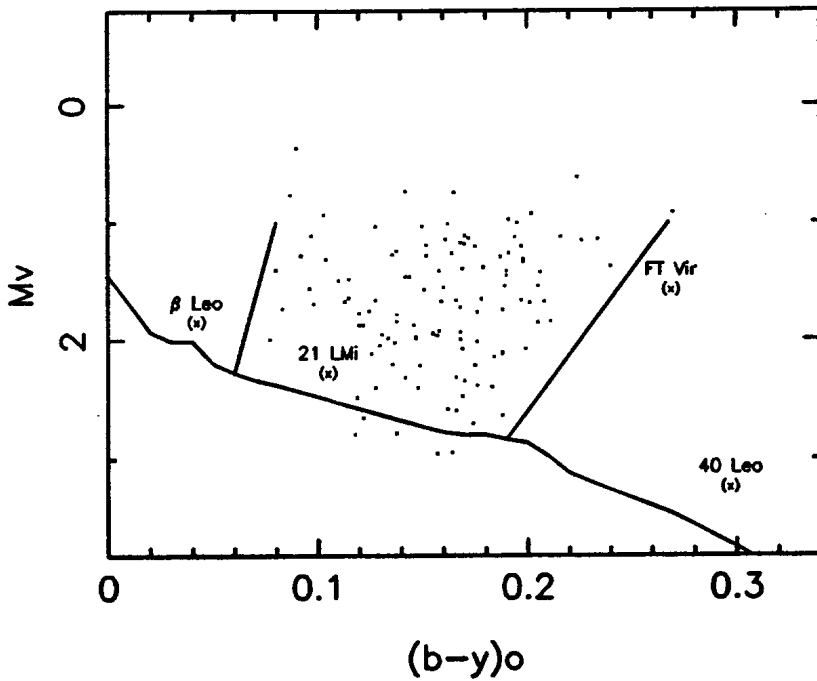


Figure 1

Table 1

Star Name	HR	V (mag)	S.T.	b-y (mag)	m ₁ (mag)	c ₁ (mag)	β (mag)	s (mag)	Number of points	Time observed (hours)
21 LMi	3974	4.48	A7V	0.111	0.196	0.870	2.836	0.0024	53	5.1
C2	4075	5.72						0.0026		
40 Leo	4054	4.79	F6IV	0.297	0.171	0.459	2.654	0.0019	69	5.1
C2	4097	6.15						0.0025		
β Leo	4534	2.14	A3V	0.044	0.210	0.975	2.900	0.0028	55	6.6
C2	4564	5.53						0.0030		
FT Vir	4746	6.22	A8n	0.278	0.173	0.649	2.675	0.0022	22	3.6
C2	4677	6.99						0.0036		

Our results do not change the positions of these stars in the H-R diagram. However, for all four stars, we do not find variability from our observations as can be seen in Table 1. Columns 10 and 11 list the number of observations and spans carried out for each star. Column 9 presents the constancy of the measured light through the V filter, where s denotes the standard error relative to

the magnitude differences C1-star (C1= comparison 1). Similar standard errors were obtained for all the other three uvb filters. For comparison, in Table 1 we also list the standard errors obtained for the check stars (C2) from the same observation periods.

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