but if there is an undetected zero point shift between the two groups, then the relation may not be linear. The test of this is to observe some δ Scuti stars in the LMC. With a distance modulus of 18.5, the δ Scuti stars should have V about 20 to 21 - well within the capabilities of the kinds of observations reported by Nemec and Mateo (ASP. Conf. Ser. 10, 134) for 23rd magnitude δ Scuti stars in the Dwarf Carina galaxy.

CALL FOR A PHOTOMETRIC CAMPAIGN ON HR 8851

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HR 8851 was discovered by Hao and Huang (1993a) to be a variable star with a light period of 0.272d and an amplitude of 0.21mag. This star is listed as FOIV type and spectroscopic binary in the Bright Star Catalogue (Hoffleit and Warren, 1991). According to its position in H-R diagram and its behaviour in light variation, we announced that HR 8851 is possibly a δ Scuti star, though its variation period seems too long to fit such type stars.

Since HR 8851 was discovered to have light variation on Dec.23 and 25, 1992, we have got two observing runs (Jaunary and December 1993) to perform V band photometry in order to determine the periods precisely. Although the data obtained are of high quality, the results of Fourier analysis on these two run data do not agree with each other very well (Fig.1). It seems that a 2-frequency solution with 3.57c/d and 4.28c/d can fit all the data reasonably well (see Fig.2). We believe that there must exist more frequencies because the light curve looks much more complicated than the fitting line of the 2-frequency solution. Influenced by the frequency alias strongly, we can not confirm the sinusoidal components with lower amplitudes.

In addition, we have made uvbyβ photometry of this star and its physical parameters were estimated as follows (Hao and Huang, 1993b),
In Fig. 3 we show the position of HR 8851 on H-R diagram as indicated by (★). This figure is taken from Rolland et al (1991) where the authors showed the position of a luminous δ Scuti star, HD 73712 with the symbol (★). We see that HR 8851, being in the

![window function](image)

**Fig. 1** The window functions and amplitude spectra calculated with CLEAN algorithm. Difference between the spectrum of run 1 and that of run 2 is quite big. The highest peak in spectrum of run 1 is at about 3.57 c/d, in that of run 2 is at about 4.28 c/d. The heights of these two peaks in the two spectra are quite different, but the positions of the two peaks in the two spectra are almost same. So we think these two frequencies are probably the reasonable solution for the light curve.
high luminosity region within the instability strip, may be an extreme example of the long period luminous δ Scuti stars.

Obviously, multi-site photometric observations would be very helpful to determine its period and other characteristics. We call for a photometric campaign on HR 8851 in late September to October 1994 for about three weeks. We suggest to use Strömgren uvby system to fix undetermined parameters. Spectroscopic observations on this star are also encouraged so that we can find out if HR 8851 is a spectroscopic binary system. Those who are interested in such a campaign could contact us to discuss the detail about this campaign. Any good proposals for the observation on HR 8851 will be taken into consideration.

Fig. 2 The light curves and the fitting lines of two frequency, 3.57c/d and 4.28c/d. The epoch of the zero point on time axis is HJD 2448979.96457.
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