VARIABLE IR AND OPTICAL SOURCES IN BLAZARS

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As was shown by Choloniewski (I98I), in the frame of two-component model (constant component + variable source) the confrontation of the fluxes observed in various spectral bands permits to find relative spectral energy distribution (if it is unchanged) of the variable source. In this case the observed points are settled on straight lines the slopes of which give the flux ratios in various bands for the variable source.

The published multicolour data for 3C 345 and OJ 287 in the outbursts of I983-84 are analyzed with this technique. The spectra of variable sources for the whole spectral range investigated are given in Fig.I (3C 345) and Fig.2 (OJ 287) as dots. The solid lines give the calculated spectra of homogeneous synchrotron sources (in Fig.I for three values of critical frequency ν_c ($\nu_c = \text{const}\, H_\perp E_{max}^2$) differing by a factor 2). The agreement between observed and calculated spectra is quite well. Taking into account the high optical and IR polarization observed the synchrotron nature of variable sources is beyond doubt. As one can see from Fig.I the value $H_\perp E_{max}^2$ is determined very exactly.

For details see the papers submitted to MN RAS (3C 345) and A&A.

References.

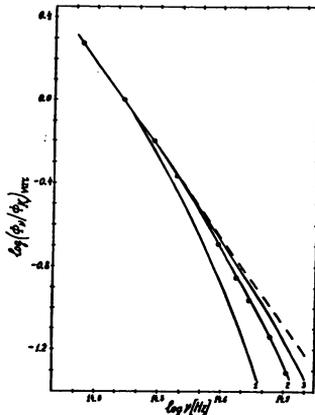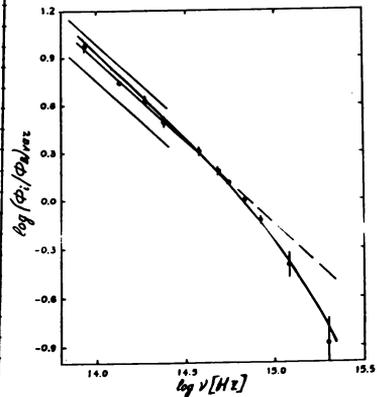Choloniewski J. I98I, Acta Astronomica, v.3I, p.293.

Fig.I   Fig.2

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