THE TEMPORAL EVOLUTION OF OJ287 PERIODICITIES AT RADIO FREQUENCIES

Marcio R. Gastaldi (CRAAM, Center for Radio Astronomy and Astrophysics Mackenzie)
L.C.L. Botti (DAS/CEA/INPE/MCTIC, National Institute for Space Research)

We present a detailed spectral analysis based on the Lomb-Scargle Periodogram and the wavelet transform applied to light curves of the BL Lac object OJ287 (0854+201) at radio frequencies. We discuss the effect of pre-whitening techniques applied to the raw data and the use of significance tests based on red and white-noise. We show the temporal evolution of periodicities at 4.8, 8.0 and 14.5 GHz that were unknown until the present date including the quasi-periodic modulation of the 1.66yr periodicity found by Hughes et al. (1998) and the 12yr periodicity reported by Sillampää et al. (1988). We also do a brief discussion of how the current astrophysical models would account for the results we found.