SPECTRAL ENERGY DISTRIBUTIONS AND 37 GHz MONITORING OF BL LACERTAE OBJECTS

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BL Lacertae objects (BL Lacs) are a group of active galactic nuclei (AGN) characterized by strong and rapid variability, strong optical polarization and a lack of prominent emission lines in their spectra. We have determined spectral energy distributions (SED) for over 300 of these objects using archival multi-frequency data and fitted a parabolic function to the synchrotron component of the SED (Nieppola et al. 2006). The peak frequencies of the synchrotron components range between $\log \nu_{peak} = 12.67$–21.46. We divided the sample into low-energy (LBLs), intermediate energy (IBLs) and high-energy (HBLs) BL Lacs according to their $\log \nu_{peak}$. The correlation between $\log \nu_{peak}$ and the luminosity at ν_{peak} was not significant, in contradiction with the "blazar sequence" scenario (Fossati et al. 1998). We also report a summary of the first 3.5 years of observations with the extensive BL Lac sample at 37 GHz. The BL Lac source list contains 398 sources, all of which were observed at least once. Roughly 34% of the sample was detected at $S/N > 4$. Most of the detected sources were LBLs, being intrinsically more luminous at radio wavelengths than HBLs.

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References

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