

MULTIFREQUENCY STUDY OF VLBI-COMPACT SOURCES: 1-22 GHz SPECTRA OBSERVATIONS AND MODEL FITS

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Results of instantaneous (with accuracy of a minute) spectra observations for a sample of 113 compact objects, selected from the VLBI survey [1], are presented. Measurements have been made in 1989.9 at the RATAN-600 at 7 wavelengths of 31, 13, 8.2, 7.6, 3.9, 2.7 and 1.4 cm as a set of our spectra monitoring program [2].

Spectra of all sources can be considered as a simple combination of two ‘elementary’ spectral components: an optically thin at lower frequencies (‘the LF-spectrum’) and a full spectral shape with a different width from a source to source (‘the HF-spectrum’) — see Figure 1. A model analysis, like in [3], confirms the hypothesis that such a combination can be explained by a halo-jet structure with the jet at different orientation from a source to source — at least for 20% of sources in our sample (model fitting is in progress).

A statistical analysis does not show any difference between quasars and BL Lac’s (see the paper by Y.Y.Kovalev in these Proceedings).

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References

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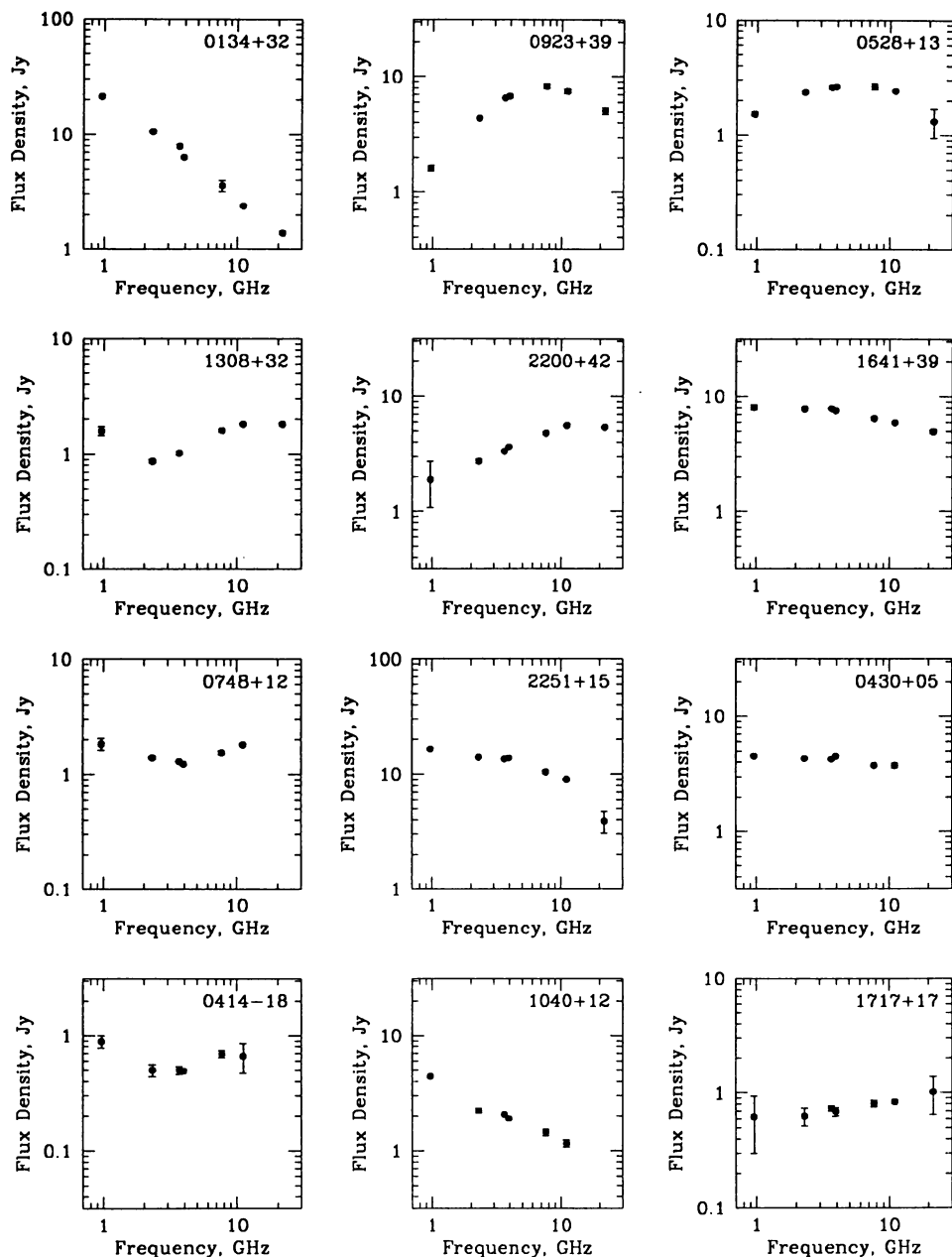


Figure 1. Examples of typical observed instantaneous spectra. All types of spectra in the first column can be considered as a combination of two 'elementary' spectra in the first line (the LF-spectrum of 0134+32 with the narrow or wide HF-spectrum of 0923+39 or 0528+13) by shifts on the frequency and flux and changes of the HF-spectra width.