

Poster Contributions: Variability

CENTIARCSECOND STRUCTURE AND VARIABILITY OF AGN

D.R. ALTSCHULER and L.I. GURVITS*

NAIC**, Arecibo Observatory, P.O. Box 995, Arecibo, Puerto Rico 00613

W. ALEF and D. GRAHAM

MPIfR, Auf dem Hügel 69, D-53121 Bonn, Germany

B. DENNISON

Dept. of Physics, Virginia Polytech. Institute and State University, Blacksburg, VA 24061-0431, USA

J.E. CARSON

MIT, Cambridge MA 02139, USA

and

A.S. TROTTER

Harvard University, Cambridge, MA 02138, USA

One possible approach to distinguish between “intrinsic” and “external” mechanisms for variability implies a study of possible correlations between flux variability and the fine structure of sources. We present results of snapshot global VLBI observations at 327 MHz of a sample of 16 extragalactic radio sources (1 radio galaxy, 9 quasars, 4 BL Lacs, 2 unidentified) selected on the basis of the bi-monthly flux monitoring at five frequencies (1400, 880, 606, 430, and 318 MHz). The observed source sample is presented in the Table I.

TABLE I

The sample of low frequency variable extragalactic radio sources

0116+319	0735+178	1422+202	2050+363
0235+164	0851+202	1611+343	2145+067
0333+321	1055+018	1633+382	2230+114
0723-008	1117+146	1901+319	2251+158

The VLBI data show clear evidences of significant scattering at baselines 2 – 6 M λ and longer. All 16 sources are mapped. The main qualitative result confirms the existence of an anticorrelation between source typical size and their indices of variability. The observational data and the discussion are presented in full in Altschuler *et al.*, 1994, *AJ*, in preparation.

* On leave from Astro Space Center of P.N. Lebedev Physical Institute, Moscow, Russia

** NAIC is operated by Cornell University under the Cooperative Agreement with the National Science Foundation