

OBSERVATIONS OF VARIABLE RADIO SOURCES AT 8.2 mm

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Observations of the quasars 3C 273 and 3C 279 at 8 mm were begun in 1967 with the 22-m radio telescope of the Crimean Astrophysical Observatory of the Academy of Sciences of the USSR and have been continued subsequently (V. A. Efanov *et al.*, 1968, 1969, 1970a, 1970b).

Since 1968 observations have been made using a maser at 8.2 mm which improved appreciably the sensitivity of the radio telescope. The same maser was used in observations of the quasars 3C 273 and 3C 345 and of the Seyfert galaxy NGC 1275 (3C 84) in March of 1970. In these observations the feed was installed at the Cassegrain focus of the dish.

The beam of the telescope at half-power points is 1.7×1.8 . The radio telescope was calibrated by observations of Jupiter, of which the brightness temperature was taken as 144 K.

Observational results presented in the following table are discussed below.

TABLE I
Flux densities of the observed radio sources

Source	Flux densities (in fl. units)	Number of scans	Date
3C 84	29 ± 1.5	10	17 March 1970
3C 273	45 ± 2.0	7	16 March 1970
3C 345	14 ± 1.0	7	18 March 1970

3C 273

The flux of 3C 273 at 8 mm decreased from October 1968 until March 1969 with a mean rate of 0.4 flux units per year.

3C 84

During the last three years the flux density of 3C 84 was almost constant at millimeter wavelengths. Comparison with measurements at 9.55 mm (Hobbs *et al.*, 1968) and at 4.3 mm (Hobbs *et al.*, 1969) suggests that at this range of wavelengths the spectrum of radio emission of 3C 84 is probably flat.

3C 345

The flux density of 3C 345 at centimeter wavelengths varies rapidly but its behaviour at millimeter wavelengths has not yet been observed.

Future observations of these three, and other variable quasars and galaxies, will be regularly carried out at 8 mm with the 22-m dish of the Crimean Observatory.

References

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