

ON THE TIME FREQUENCY DEPENDENCIES OF THE SECULAR DECREASE RATE OF CASSIOPEIA A RADIO EMISSION

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ABSTRACT. Flux densities of young supernova remnant Cassiopeia A relative to those for radiogalaxy Cygnus A were measured in 1977–1992 at the frequencies of 290 and 927 MHz. These measurements were made with the same 10 m radiotelescopes at the Staraya Pustyn Radioastronomical Observatory (NIRFI). Decline of flux densities with time is not a steady one. There are deflections up to $\pm 3\%$ ($\pm 3 - 7\sigma$) from the fitted power or linear time dependencies. The mean values of the rate of the flux densities decrease was determined to be $(0.88 \pm 0.11)\%$ per year at the frequency of 290 MHz

and $(0.71 \pm 0.09)\%$ per year at the frequency of 927 MHz. The latter value is somewhat smaller than the value of $(0.95 \pm 0.04)\%$ per year for 927 MHz flux density decrease rate over 1962–1977 (Vinyajkin E.N., Razin V.A.: 1979, *Austral. J. of Phys.*, **32**, 93). The mean values of an annual decrease in 290 and 927 MHz Cassiopeia A flux densities over 1977–1992 do not contradict qualitatively with the frequency dependence of the secular decrease rate obtained by Vinyajkin E.N., Razin V.A., Khrulev V.V.: 1980, *Pisma Astron. Zh.*, **6**, 620.

Key words: Radio emission, Cas A.