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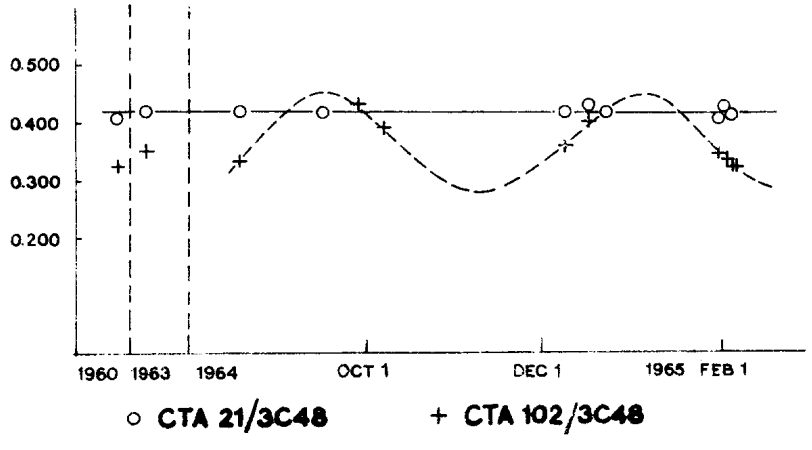
VARIABILITY OF THE RADIO SOURCE CTA - 102

During the period from August 1964 to February 1965 measurements of the flux densities of CTA-21 and CTA-102 were made, at the wavelength 32.5 cm with the aid of a modulation radiometer, The flux densities of both sources have been determined relative to 3C-48. It should be noted, that according to recent spectral measurements the radio flux density of 3C-48 is constant within 3 % [1] .

In the figure the determined ratios of the flux densities - CTA-21/3C-48 and CTA-102/3C-48, together with those obtained from previous measurements [2, 3] have been plotted against time. One can see, that the ratio CTA-21/3C-48 remains constant within the errors of measurement, while the ratio CTA-102/3C-48 varies at least within 0.320-0.430; these limits are far in excess of the errors of measurement.



The flux density of CTA-102 varies roughly according to a sinusoidal law with a period close to 100 days. Variations with shorter periods may be also present. The linear diameter of the source cannot exceed the value $cT \simeq 0.1$ parsec $= 2.10^4$ a.u. Compared with the angular diameter of CTA-102, $\theta = 0''.01$, obtained by the method presented in [4], an upper limit for its distance can be determined: $R \leq 2$ megaparsec. This can be considered as the indication of the galactic origin of CTA-102.

1 Matthews, T.A., Sandage, A.R., Astrophys.J., 138, 30, 1963.

2 Harris, D.E., Roberts, J.A., Publ. Astron. Soc. Pacific, 72, 237, 1960.

3 Conway, R.G., Kellerman, K.I., Long, R.J., Mon. Not. Roy. Astron. Soc., 125, 261, 1962.

4 Slish, V.I., "Nature", 199, 628, 1963.

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