

THE OBSERVATIONS OF GLIESE 623 AND SOME OTHER OBJECTS WITH SUSPECTED UNSEEN COMPONENTS

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The star Gliese 623 ($RA = 16^h 22.6^m$; $Decl = +48^\circ 28'$ [1950]), $\pi = 0.''138$; $m_v = 10.3$; Sp dM3, (Woolley *et al.*, 1970)) is observed at Pulkovo by means of the 26-inch Refractor. The series of 95 plates (about 600 individual positions) obtained during 1979 – 1994 has been studied. This set has shown perturbations in the motion of this star under the influence of a dark component which has been investigated earlier by different methods (see, for instance, Marcy & Moore, 1989). The following values of relative proper motion and parallax with their mean errors and preliminary elements of the photocentric orbit have been adopted on the base of our observations: $\mu_x = +1.''1483 \pm 0.''0010$; $\mu_y = -0.''4462 \pm 0.''0009$; $\pi_x = 0.''126 \pm 0.''019$; $\pi_y = 0.''136 \pm 0.''017$; $P = 3.76$ years; $e = 0.50$; $T_o = 1984.28$. With the use of modified Thiele – Innes constants the following elements of the orbit have been determined: $\alpha = 0.''052 \pm 0.''006$ (m.e.) and $i = 141^\circ$; $\omega = 265^\circ$; $\Omega = 126^\circ$. We may suppose that the lower limit of the mass of the component is about 0.09 masses of the Sun. Our study has shown small periodic deviations in the distances between the components of δ Gem and ADS 11632, which may be evoked by substellar and stellar companions of low masses (Shakht, 1988).

References

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