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NEW PERIODS OF THREE RR LYR VARIABLES

The variables 10 in NGC 6333, 23 in NGC 5466 and 12 in NGC 6426 are three c-type RR Lyrae variables with the shortest periods ($< 0^d.25$) in Oosterhoff type II globular clusters. Figure 1a shows the cumulative distribution for Oosterhoff II c-type variables (without ω Cen). The distribution clearly shows a gap at $P = 0^d.024$ at the shortest periods between these three variables and all the others. As the wings of the cumulative distributions may be of great importance in the interpretation of the Oosterhoff effect, these three variables have been carefully studied.

NGC 6333(M9) Var.10- This star has been studied only by H.B.Sawyer (Toronto Publ.1, No.24, 1951) who classified it as a c-type RR Lyr with the period $P = 0^d.242322$. Using the same data the alternative period $P = 0^d.319822$ has been found, whose reciprocal differs by a unity from the previous one. The light curve (Fig.2) has the same dispersion as the curve constructed with Sawyer's period.

NGC 6426 Var. 12- This variable has been discovered and studied by C. Grubissich (Asiago Contr. 94, 1958) who found $P = 0^d.23679$ and the extremely short alternative period $P = 0^d.19145$. Using the same data a new possible period has been found, $P = 0^d.310255$, which differs from the previous one by a unity in its reciprocal. The light curve Fig.2 constructed with this period however shows a larger dispersion, and new observations are needed to decide about the right period.

NGC 5466 Var.23- This star (Hop 235) has been discovered and studied by T.I. Gryzunova (AC 526, 8, 1969; VS.Suppl.1, 253, 1972). She found $P = 0^d.2321607$, but $P = 0^d.302353$ gives a perfectly equivalent light curve (Fig.2).

This study, which cannot be considered conclusive in absence of new observations, reconfirms however the suspicion that the published periods of these three variables might be wrong. On the basis of this hypothesis and using the new periods found, the cumulative distribution for Oosterhoff II c-type variables has been plotted (Fig.1b): the behaviour is now more regular and continuous.

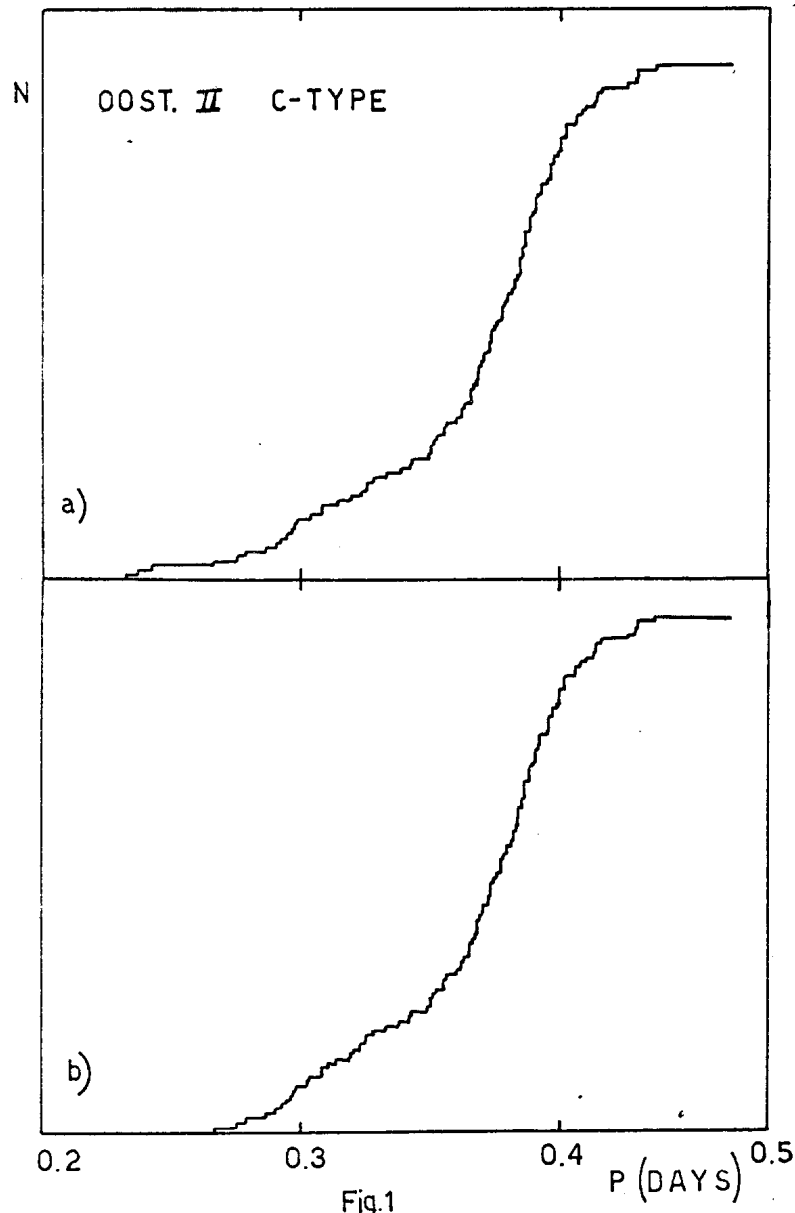


Fig.1

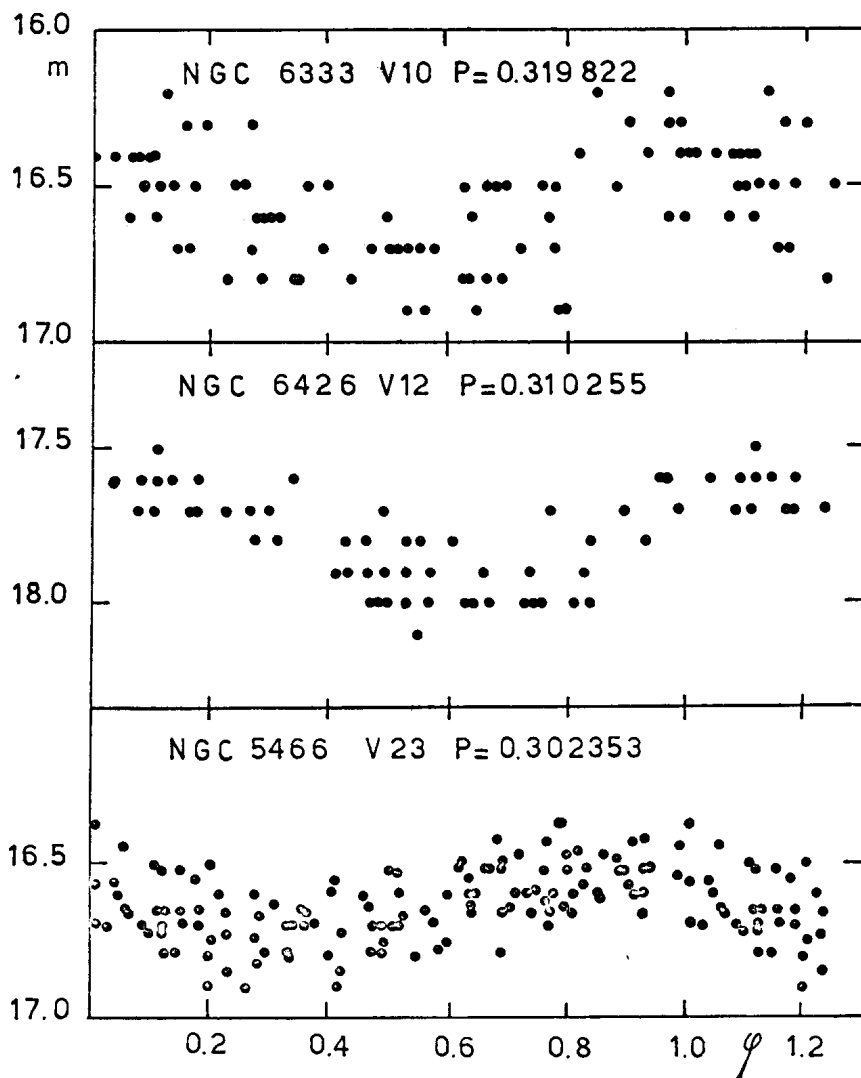


Fig. 2

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