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# The Eclipsing System V404 Lyr: Light-Travel Times and Gamma Doradus Pulsations

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## Abstract

We present the physical properties of V404 Lyr (KIC 3228863) exhibiting eclipse timing variations and multiperiodic pulsations from all historical data including the *Kepler* and *SuperWASP* observations. Detailed analyses of 2,922 minimum epochs showed that the orbital period has varied through a combination with an upward-opening parabola and two sinusoidal variations, with periods of  $P_3=649$  d and  $P_4=2,154$  d and semi-amplitudes of  $K_3=193$  s and  $K_4=49$  s, respectively. The secular period increase with a rate of  $+1.41 \times 10^{-7}$  s/dyr could be interpreted as a combination of the secondary to primary mass transfer.

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