

Variable stars in the globular cluster NGC 7492[★]

New discoveries and physical parameter determination (Corrigendum)

R. Figuera Jaimes^{1,2}, A. Arellano Ferro³, D. M. Bramich¹, S. Giridhar⁴, and K. Kuppuswamy⁴

¹ European Southern Observatory, Karl-Schwarzschild-Straße 2, 85748 Garching bei München, Germany
e-mail: robertofiguera@gmail.com, dan.bramich@hotmail.co.uk

² SUPA, School of Physics and Astronomy, University of St. Andrews, North Haugh, St. Andrews, KY16 9SS, UK

³ Instituto de Astronomía, Universidad Nacional Autónoma de México, Apdo. Postal 70-264, México D. F. CP 04510, Mexico

⁴ Indian Institute of Astrophysics, Bangalore, 560034 Karnataka, India

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Equation (9), representing the phase $\phi(t)$ at time t of a periodic variable undergoing a period change, is erroneous. This equation should instead read

$$\phi(t) = N_E(t) - [N_E(t)], \quad (1)$$

where $N_E(t)$ is the number of cycles elapsed at time t since a reference epoch E . The quantity $N_E(t)$ for a constant rate of period change is given by

$$N_E(t) = \frac{1}{\beta} \ln \left[1 + \frac{\beta}{P_0} (t - E) \right], \quad (2)$$

where β is the period change rate and P_0 is the period at the epoch E .

Consequently our derived period change rate for the RR Lyrae star V2 in NGC 7492 is wrong. Repeating the analysis with the correct equations, we obtain $P_0 = 0.412119$ d at epoch $E = 2453284.2652$ d and $\beta \approx 2.6 \times 10^{-7}$ d d⁻¹ (or $\beta \approx 95$ d Myr⁻¹). We find that the phased light curve for V2 using these new parameters (and equations) is further improved.

[★] Based on observations collected at the Indian Astrophysical Observatory, Hanle, India.