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THE NEW EB SYSTEM GSC 4741_1263

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Name of the object:
GSC 4741_1263

Equatorial coordinates:	Equinox:
R.A. = 04 ^h 53 ^m 22 ^s DEC. = -03°22'55"	2000.0

Observatory and telescope:
L'Ametlla del Valles Observatory, 0.5-m Newtonian telescope; Mollet del Valles Observatory, 0.4-m Newtonian telescope; Esteve Duran Observatory, 0.6-m Cassegrain telescope; Monegrillo Observatory, 0.4-m Newtonian telescope; Hostalets de Pierola, 0.4-m Newtonian telescope

Detector:	CCD
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Filter(s):	V
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Comparison star(s):	GSC 4741_1265
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Check star(s):	None
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Transformed to a standard system:	No
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Availability of the data:
Upon request

Type of variability:	EB
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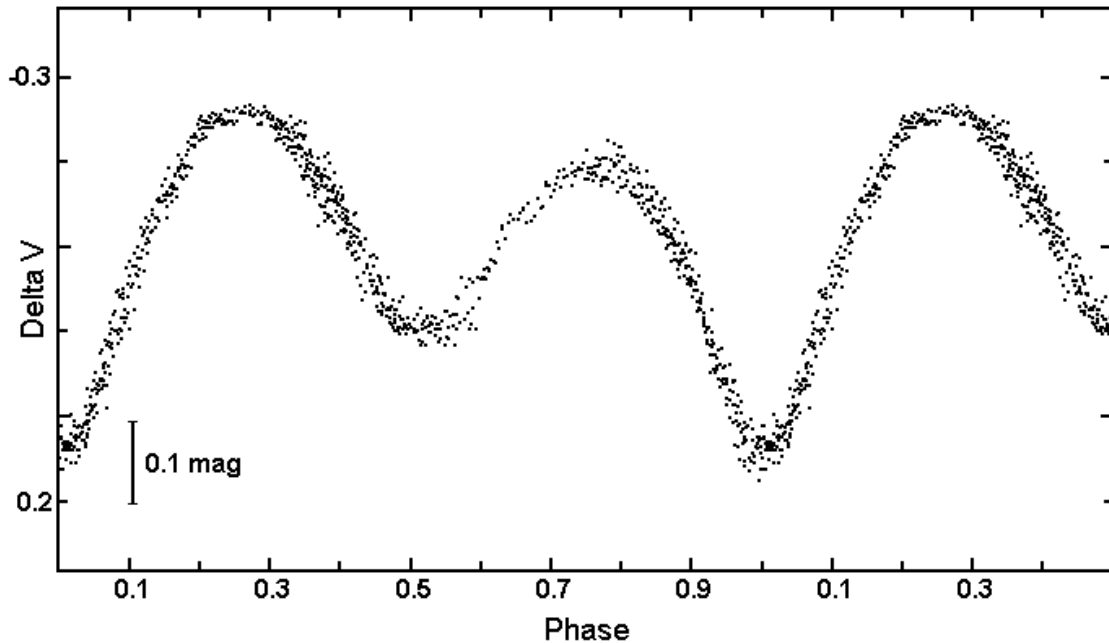


Figure 1. Phase curve of the EB type star GSC 4741_1263

Remarks:

Its variability was discovered with the 0.4-m Newtonian telescope at Mollet del Valles Observatory, and observed for 28 nights from November 1996 to February 1998. This star is included in the Tycho Catalogue with a derived Johnson V magnitude of 11.48 and a $B - V$ color index of +0.335. Observations show that GSC 4741_1263 is a β Lyrae type eclipsing binary system with a period of 0.6140 days, a V amplitude of 0.394 ± 0.015 for primary minimum and 0.252 ± 0.015 for secondary minimum (Figure 1). The phase curve shows an O'Connell effect of $0^m.068$ where the maximum around phase 0.75 is the dimmer. Also the secondary minimum is not centered at phase 0.5 but appears around phase 0.52, and although both minima look flat, the secondary one is broader. These two light curve features suggest that the orbit of the components might be eccentric.

The following ephemeris was computed for this star:

$$\text{Min. I} = \text{HJD } 2450775.50510 + 0^d.614068 \times E. \\ \pm 0.00065 \pm 0.000010$$

Reference:

ESA, 1997, The Hipparcos and Tycho Catalogues, ESA SP-1200