**SPECTROSCOPIC STUDY OF Be STAR β LYRAE**

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ABSTRACT

We present the spectroscopic observation of β Lyrae, an interacting eclipsing binary, with orbital rotation period of 12.94 days, with one component known as the B-emission (Be) star (Ak, et al., 2007). The primary star is a B6-B8II of 3Mʘ and the secondary is a 13Mʘ B0.5V star. The secondary star is embedded in the accretion disk produced by the infalling matter from the primary star, and this disk is estimated as the source of the emission lines (Bonneau, et al., 2011). The observations were conducted at Bosscha Observatory, Lembang, Indonesia from May to July 2018, using 10” Meade LX-200R Telescope (*D* = 254 f*/D* = 9.84), equipped with a Littrow High Resolution Spectrograph (LHIRES) III, grating of 1200 grooves/mm yielding in the resolution of R~5900, and CCD SBIG ST-402 XME camera with backfocus at 17.5 mm. Seeing during observation was estimated to be 2 arc seconds. During this period, we have obtained 15 spectra in various wavelength coverage, 4 spectra covering around  = 5779 – 6046 ÅÅ (typical S/N = 0.02), 1 spectrum covering around  = 6430.257 – 6694.434 ÅÅ (typical S/N = 0.06), and 10 spectra covering around  = 6487 – 6752 ÅÅ (typical S/N = 0.06). The observed spectra show Hα-emission profiles with *V/R* variation, He I 6678 Å with P-Cygni profiles, and He I 5876 Å with Invers P-Cygni profiles. These variations are due to the fact that β Lyrae is a binary star system, and also it is suspected that another possible mechanism might be involved (Harmanec 2002, Ak, et al. 2007).

*Keywords: Spectroscopy; β Lyrae; Be Star*

References

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