Variability and Period Analysis for BL Lac AO 0235+164

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Abstract

© 2017. The American Astronomical Society. All rights reserved. Variability is one of the extreme observational properties of BL Lacertae objects. AO 0235+164 is a well-studied BL Lac throughout all electromagnetic wavebands. In the present work, we show its optical R-band photometric observations carried out during the period from 2006 November to 2012 December using the Ap6E CCD camera attached to the primary focus of the 70 cm meniscus telescope at Abastumani Observatory, Georgia. During our monitoring period, it showed a large variation of DR = 4.88 mag (14.19- 19.07 mag) and a short timescale of DT- 73.5 minutes. During the period of 2006 December to 2009 November, we made radio observations of the source using the 25 m radio telescope at Xinjiang Astronomical Observatory. By adopting a discrete correlation function to the optical and radio observations we found that the optical variation leads a radio variation of 23 ± 12.9 days.

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Keywords

BL Lacertae objects: individual (0235+164), galaxies: active, galaxies: photometry Supporting material: machine-readable tables

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