

Superhump evolution of WZ Sge-type dwarf nova ASASSN-14cv at rebrightening stage

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Abstract

© 2016, Pleiades Publishing, Ltd. We report the results of observations of a WZ Sge-type dwarf nova ASASSN-14cv, acquired in 2014 and covering the end of a superoutburst and a rebrightening stage. We detected 8 rebrightenings of this star. Based on the light curve profiles of the rebrightenings, we conclude on the existence of both the “inside-out” and “outside-in” outbursts. During the entire course of the rebrightening stage, a brightness variability with the mean period of $P = 0.d06042(8)$ was detected, which was identified as a superhump period during the stage B of the superoutburst. The character of the registered superhump evolution can be either described by a parabolic approximation with the negative $\dot{P} = -1.1 \times 10^{-5}$, or by an approximation with 2 linear areas with the corresponding periods of $0.d06074(3)$ and $0.d06046(9)$.

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Keywords

accretion: accretion disks, stars: cataclysmic variables, stars: dwarf novae, stars: individual ASASSN-14cv