Contribution ID: **29** Type: **not specified**

Spin and orbital variability of the intermediate polar RX J2133.7+5107

Tuesday 25 October 2022 12:40 (15 minutes)

We report the results of long-term time series photometry on RX J2133.7+5107. Using data taken during 2007-2022 (15 yr), we confirmed and improved the results obtained by de Miguel et al. (2017). Due to longer time-base we obtained more accurate value of the spin-up time-scale $1.511(3) * 10^5$ yr. The observed rate of spin-up is even faster then reported by de Miguel et al. (2017) and one of the fastest of all known intermediate polars. We confirm the presence of superhumps and studied the changes of superhump period. Also we report a presence of complicated changes of (O-C) with a period of about 7 years, that may be interpreted either as fluctuations around the equilibrium period or as a presence of a third body orbiting the inner close binary system.

Author: Dr BREUS, Vitalii (Department of Mathematics, Physics and Astronomy, Odessa National Maritime University)

Co-authors: ANDRONOV, Ivan (Department of Mathematics, Physics and Astronomy, Odessa National Maritime University); PETRIK, Karol (M. R. Stefanik Observatory and Planetarium, Sladkovicova 41, SK-92001 Hlohovec, Slovak Republic); DUBOVSKY, Pavol (Vihorlat Astronomical Observatory, Mierova 4, SK-06601 Humenne, Slovak Republic)

Presenter: Dr BREUS, Vitalii (Department of Mathematics, Physics and Astronomy, Odessa National Maritime University)

Session Classification: Stellar astrophysics and interstellar medium