

Contribution ID: 26

Type: not specified

Photometric and spectrophotometric study of UGSU-type dwarf nova Gaia18awg, based on ground and space observations in optical and X-ray wavelengths (12+3)

Wednesday 28 April 2021 17:05 (15 minutes)

In this work we present optical, X-ray, UV photometry, X-ray spectroscopy of dwarf nova Gaia18awg (ASASSN-16le). We report an analysis of photometry, spectroscopy and measurements of physical, orbital characteristics. Gaia18awg is a U Gem + SU Uma dwarf nova system. That system showing non-periodic outbursts and superoutbursts, superhumps during superoutbursts. From Lisnyky (MPC 585) data we determined superhump period. This system shows positive (calculated) and negative (observed) superhumps with periods of 1.647 and 1.56-hr, respectively, and we identify an orbital period of 1.60-hr. We determined the hitherto unknown masses of the two components, their radii and orbital characteristics (like binary separation, semi-major and semi-minor axis). Analysis of the X-ray spectra showed strong Fe K α lines at 6.7-6.8KeV, Fe L complex around 1.1KeV, Ne K α , Mg K α , Si K β lines with energies 0.9KeV, 1.3KeV, 1.83KeV respectively. EPIC-pn, RGS photometry shows dominant soft x-rays during quiescence. We interpreted this as the radiation of the boundary layer.

Author: Mr SOKOLIUK, Oleksii (Kyiv Astronomical Observatory, Kyiv, Ukraine)

Co-authors: BARANSKY, A. (Kyiv Astronomical Observatory, Kyiv, Ukraine); KHOROLSKIY, A. (Kyiv Astronomical Observatory, Kyiv, Ukraine)); SIMON, A.O. (Taras Shevchenko National University of Kyiv, Kyiv, Ukraine); VASYLENKO, V.V. (Taras Shevchenko National University of Kyiv, Kyiv, Ukraine)

Presenter: Mr SOKOLIUK, Oleksii (Kyiv Astronomical Observatory, Kyiv, Ukraine)

Session Classification: Stellar Astrophysics and Interstellar Medium