
Massive Binary RY Sct

Nino Kochiashvili*^{†1}, Ia Kochiashvili*^{1,2}, Rezo Natsvlishvili*¹, Sophia Beradze*¹, and
Manana Vardosanidze*¹

¹Ilia State University – Georgia

²Dark Cosmology Centre, Niels Bohr Institute – Denmark

Abstract

RY Scuti is a unique massive binary star system in a rare transitional evolutionary phase. It is an eclipsing binary where both stars have overfilled their Roche lobes causing the system to be in a state of "overcontact", and it is surrounded by a young circumstellar nebula. The system is thought to be a rare progenitor of a WR+OB system. RY Sct is near the Eddington luminosity limit, so radiation pressure plays an important role in the mass loss. At least one of the components of the close binary may be related to a rare class of LBV stars, or so called S Doradus variables. The details of mass ejection and mass transfer in such conditions are complicated compared to single stars. We have photometric and unpublished yet spectral observations of the star and we are presenting results of their analysis.

Keywords: massive close binary, progenitor of a WR+OB system, RY Sct

*Speaker

[†]Corresponding author: nino.kochiashvili@iliauni.edu.ge