

New radial velocity measurements for orbital parameter analysis of the gamma-ray binary HESS J0632+057

Gamma-ray binaries are a small subclass of high mass binaries where the SED peaks at energies greater than 1 MeV. For most systems the orbital parameters must be derived from radial velocity measurements of the optical companion. The gamma-ray binary HESS J0632+057 has two proposed but incompatible orbital solutions. In order to choose between the two solutions, new observations over multiple semesters are being undertaken with the High Resolution Spectrograph (HRS) on the Southern African Large Telescope (SALT), of the B0pe companion. We present the preliminary results from the first two observing semesters, showing the radial velocity measurements derived by both the absorption lines from the stellar surface as well as the emission lines for the circumstellar disc. These results are compared to the existing solutions.

Primary author: MATCHETT, Natalie (University of the Free State)

Co-authors: Prof. VAN SOELEN, Brian (University of the Free State); Prof. GRAY, Richard (Appalachian State University)

Presenter: MATCHETT, Natalie (University of the Free State)

Session Classification: Contributed posters