

# Determining the orbital parameters of the gamma-ray binary HESS J0632+057

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Gamma-ray binaries are a rare subclass of high mass binary systems that display non-thermal emission peaking at energies greater than 1 MeV. All the identified systems contain an O/Oe or B/Be type star and a compact object in the mass range of a neutron star or black hole. Correctly interpreting how these sources can produce non-thermal emission, up to very high energy gamma-rays, depends on knowing the orbital parameters. Previous studies of the gamma-ray binary, HESS J0632+057, by Cesares et al. 2012 and Moritani et al. 2018 have obtained incompatible orbital solutions. Since the source has a ~320 day orbital period, long term observations are required to resolve this discrepancy. We are undertaking observations using the HRS on the SALT, to differentiate between the two proposed orbital solutions and we present the initial results from the first observing semester.

## Abstract field

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