



Contribution ID: 252

Type: **Contributed talk in mini symposium**

Gamma-ray binaries at very-high-energies: particle acceleration and non-thermal emission

Tuesday, 12 December 2023 14:55 (12 minutes)

Surveys with ground-based Cerenkov telescopes (e.g., HESS, MAGIC, and VERITAS) and space-based gamma-ray detectors (e.g., Fermi, INTEGRAL, and AGILE) have discovered a new class of binary systems that emit luminous gamma-rays. Those binaries usually comprise a stellar-mass compact object in orbit with a massive star and emit broadband radiation with non-thermal spectra peaking beyond 1 MeV, distinguishing them from the well-known X-ray binaries. So far, less than ten such binaries have been found, and only two of them with compact objects have been identified as pulsars. Gamma-ray binaries are unique astrophysical laboratories for studying particle acceleration and physical properties of outflows from compact objects and massive stars. In the talk, I will briefly summarize the basic observational properties of detected gamma-ray binaries, and introduce our recent theoretical studies on the multi-wavelength emission mechanisms of these systems.

Primary author: CHEN, Shangming (TDLI)

Presenter: CHEN, Shangming (TDLI)

Session Classification: Astroparticle