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Binary systems

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The small source class of gamma-ray binaries consists at present of six known objects with different orbital periods ranging from days up to several years. One of the best studied gamma-ray binary across all frequencies, LS I +61 303, is highly variable at any given orbital phase and was lately discovered to show on top of orbital also superorbital variability at high energies. In contrary, the other famous binary, LS 5039, shows no variations apart from those related to the orbital period.

The other unresolved mystery in most of these sources is the nature of their compact object. Both neutron star (e.g. PSR B1259-63) and probable black hole (microquasar, e.g., Cyg X-3) binary systems have been detected at GeV energies, hence both types of compact object are viable in the undetermined systems.

In this talk I will present the recent findings on the known gamma-ray binaries up to now and discuss their behavior at high and very high energies.

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