

Multi-wavelength Monitoring of Two Gamma-ray Binaries: 1FGLJ1018.6-5856 and LMC P3

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Gamma-ray binaries are a subclass of high-mass binary stellar binary systems consisting of a compact object (neutron star/ black hole) and an O- or B-type stellar companion. They emit across the entire electromagnetic spectrum, with a characteristic energy spectrum that peaks in the gamma-ray energy range. Currently, only ten such systems have been discovered.

1GLJ1018.6-5856 and LMC P3 are two gamma-ray binary systems discovered in 2011 and 2016, respectively. In this study, we utilize observational radio data from the MeerKAT telescope, along with archival X-ray and gamma-ray data from the Swift and Fermi-LAT space telescopes, to investigate these two systems. The primary objectives are to:

- Perform a radio analysis for these sources.
- Conduct a multi-wavelength variability cross-correlation analysis.

The findings from this study aim to shed light on the dominant emission mechanism in both these sources, offering insights into the nature of the compact object in each binary (i.e., whether we have a neutron star or black hole).

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