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The multi-wavelength behaviour of PSR B1259-63 during the 2021 periastron passage

Gamma-ray binaries are a rare class of high mass binary system (less than 10 sources) that emit most of their non-thermal emission in the gamma-ray regime. The gamma-ray binary PSR B1259-63/LS 2883 consists of a young pulsar in a 3.4 year orbit around a Be star. Observations around previous periastron passages have shown increased non-thermal emission associated with the pulsar crossing the Be star's circumstellar disc, as well as flares at gamma-ray energies around inferior conjunction, which exceed the pulsar's spin-down luminosity. We undertook an extensive multi-wavelength campaign to observe the source at radio (ATCA), optical (SALT), X-ray (Swift) and gamma-ray (Fermi-LAT) energies during the most recent periastron passage in February 2021. We present the first results from this observational campaign and discuss their possible implications.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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