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## Role of the disk environment in the gamma-ray emission from the binary system PSR B1259-63/LS 2883

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PSR B1259-63/LS 2883 is a very high energy (VHE;  $E > 100$  GeV) gamma-ray emitting binary consisting of a 48 ms pulsar orbiting around a Be star with a period of 3.4 years. The Be star features a circumstellar disk which is inclined with respect to the orbit in such a way that the pulsar crosses it twice every orbit. The circumstellar disk provides an additional field of target photons which may contribute to inverse Compton scattering and gamma-gamma absorption, leaving a characteristic imprint in the observed spectrum and light curve of the high energy emission. We study the signatures of Compton-supported, VHE gamma-ray induced pair cascades in the circumstellar disc of the Be star and their possible contribution to the GeV flux. We also study a possible impact of the gamma-gamma absorption in the disk on the observed TeV light curve. We show that the cumulative absorption of VHE gamma-rays in stellar and disk photon fields can explain the modulation of the flux at the periastron passage.

### Collaboration

– not specified –

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