

Gamma-ray production in millisecond pulsar binary systems

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We discuss scenarios which turn to production of gamma-ray emission within the redback type binary systems containing millisecond pulsar and a low mass stellar companion. The millisecond pulsar can eject relativistic leptons from the inner magnetosphere in the rotation powered stage. These leptons, or after additional re-acceleration, can interact with radiation of companion star.

In the accretion stage, the accretion disk penetrates the inner pulsar magnetosphere. Leptons from the inner pulsar magnetosphere can interact with the disk radiation. We propose that in both stages gamma-rays can be produced not only in the pulsar mechanism but also in other processes which involve the presence of the companion star.

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