

8th Heidelberg International Symposium on High-Energy Gamma-Ray Astronomy

Contribution ID: 26 Contribution code: GAL

Type: Poster

Gamma-ray emission from dwarf novae

Monday 2 September 2024 09:01 (1 minute)

Dwarf novae are close binary systems where one of the components is a white dwarf that appears to exhibit abrupt and recurrent changes in viscosity in its accretion disk, causing material to fall towards the surface of the star with the consequent release of energy. As a result, these cataclysmic systems intermittently change brightness at different wavelengths. During outbursts, the increased material flow onto the star can cause shocks that may accelerate particles to high energies, with some of these systems being detected in X-rays. Here, the possibility is proposed that dwarf novae may be gamma-ray emitters too. To investigate this, the entirety of the Fermi telescope archive data between 100 MeV and 500 GeV of some canonical dwarf novae of different types during their respective outbursts has been selectively analyzed. As a result, although there is no evidence of Fermi-LAT emission above 5 sigma in any case, excess gamma-ray emission has been detected in some cases, which could be associated with dwarf novae, opening up a new field of study.

Primary author: LUQUE ESCAMILLA, Pedro Luis (Universidad de Jaén)

Co-authors: Dr MESTRE, Enrique (Instituto de Ciencias del Espacio (ICE-CSIC)); Prof. MARTÍ, Josep (Universidad de Jaén)

Presenter: LUQUE ESCAMILLA, Pedro Luis (Universidad de Jaén)

Session Classification: Poster hang