



Contribution ID: 1240

Type: **Oral contribution**

Fermi Reveals New Light on Novae in Gamma rays

Wednesday, August 5, 2015 3:15 PM (15 minutes)

Novae are now firmly established as a high-energy (>100 MeV) gamma-ray source class by the Fermi Large Area Telescope (LAT). In symbiotic systems such as V407 Cyg 2010, there is a firm theoretical framework for the production of shock-acceleration particles in the nova ejecta from interactions with the dense wind of the red giant companion. Yet, the >100 MeV emission detected in classical novae involving main sequence companions cannot be explained in the same way and could instead be produced in internal shocks in the ejecta. We will summarize the Fermi-LAT gamma-ray observations of novae, highlighting the main properties that will guide further studies. Additionally, we report on the soft gamma-ray (~0.1 MeV) continuum detection of the oxygen-neon (ONe) type classical nova V382 Vel 1999 with the OSSE detector aboard the Compton Gamma Ray Observatory in light of its Fermi-era analog, V959 Mon 2012.

Collaboration

FERMI

Registration number following "ICRC2015-I"

943

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Session Classification: Parallel GA19 Fermi

Track Classification: GA-EX