

Abstract Submitted
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New identifications of extended GeV gamma rays from Supernova Remnants with Fermi-LAT Pass 8 data JOHN HEWITT, CRESST / UMBC / NASA's GSFC, MICAELA CARAGIULO, INFN / Universita del Politecnico di Bari , BENJAMIN CONDON, Universite Bordeaux 1, CNRS/IN2P3, FRANCESCO GIORDANO, INFN / Universita del Politecnico di Bari , MARIANNE LEMOINE-GOUMARD, Universite Bordeaux 1, CNRS/IN2P3, FERMI-LAT COLLABORATION — Identifying gamma-ray emission from supernova remnants is crucial to test the paradigm for the origin of Galactic cosmic rays. Despite the excellent sensitivity and spatial resolution of the Large Area Telescope (LAT) onboard the Fermi Gamma-ray Space Telescope, it remains difficult to clearly identify cosmic ray sources buried within the diffuse Galactic background and possibly confused with other gamma-ray sources, such as pulsars. The LAT collaboration has developed a new Pass 8 event reconstruction with improved spatial resolution and acceptance that permits the first detection of extended emission in GeV gamma rays from several supernova remnants. These include the young TeV shell-type remnant RCW 86, and older supernova remnants that are interacting with molecular clouds, such as CTB 37A. The improvements with Pass 8 promise to rapidly grow the population of gamma-ray supernova remnants identified through their spatial extension.

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