

Abstract Submitted  
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**The First Fermi-LAT Supernova Remnant Catalog** T. J. BRANDT, NASA/GSFC, FERMI-LAT COLLABORATION — The Fermi Gamma-ray Space Telescope's Large Area Telescope (Fermi-LAT) has shed new light on many types of Galactic objects, including many individual Supernova Remnants (SNRs). The spectral detection of hadronic gamma-ray emission from two SNRs, suggesting acceleration of cosmic ray (CR) protons, is an example of individual studies providing clues to characteristics that may be common to all SNRs. To uniformly determine SNR properties, we have developed the first systematic survey of SNRs from 1 to 100 GeV. From the 279 known radio SNRs, we found more than 100 GeV candidates, 31 of which are likely and 14 of which are marginally counterparts. These candidates span a wide range of multiwavelength properties, providing a critical context for complementary, in depth individual studies. Modeling this multiwavelength data demonstrates the need for improvements to previously sufficient, simple models describing the GeV and radio emission from hadronic and leptonic particle populations in these objects. Together with the  $>240$  upper limits on GeV emission at the radio position and extension, our results also enable us to indirectly constrain SNRs' aggregate ability to accelerate CRs, and with direct measurements, will additionally enable a better understanding of CR origins.

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