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A Detection of the Gamma-Ray Albedo of Solar System Bodies YUEXIA LIN, MANEL ERRANDO, RESHMI MUKHERJEE, Department of Physics and Astronomy, Barnard College, Columbia University, NY 10027, USA — Interactions of cosmic rays with solar system bodies (SSBs) produce an albedo gamma-ray emission via processes such as pion decay. The albedo emission has been detected from the Sun and the Moon. It is also possible to find emissions from other SSBs that are smaller or farther away from the Earth. The gamma-ray albedo of small SSBs, such as asteroids in the Main Belt, can provide an indirect measurement of the number and size distribution of those small SSBs below the detection limit of other methods. We analyze more than 6 years of all sky data from Fermi Large Area Telescope (LAT), looking for an excess of gamma-ray emission at low ecliptic latitudes. Our methods include subtracting emissions from the Galactic plane and known sources in LAT 2-year Point Source Catalog. The sensitivity of this analysis exceeds that of the previous study using Energetic Gamma-Ray Experiment Telescope (EGRET) data (Moskalenko *et al.*, 2008), which can lead to better limits of the celestial gamma-ray foreground. We will present results from our analysis.

Yuexia Lin
Department of Physics and Astronomy, Barnard College,
Columbia University, NY 10027, USA

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