

Abstract Submitted  
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**Spectacular variability of gamma-ray emission in blazar 3C279 during the large outburst in June 2015** GRZEGORZ MADEJSKI, SLAC Linear Accelerator Center and Kavli Institute for Astrophysics and Cosmology, MASA AKI HAYASHIDA, KATSUAKI ASANO, ICRR, Univ. of Tokyo, Tokyo, Japan, DAVID THOMPSON, NASA/Goddard, Greenbelt, MD, USA, KRZYSZTOF NALEWAJKO, MAREK SIKORA, Copernicus Astronomical Center, Warsaw, Poland, FERMI-LAT COLLABORATION — The most luminous celestial extragalactic sources of persistent gamma-ray emission are active galaxies with relativistic jets pointing towards the observer. Those are commonly called blazars, and Flat Spectrum Radio Quasar 3C 279 has been one of the brightest gamma-ray blazars in the sky. In Dec. 2013, April 2014, and June 2015 it showed powerful outbursts with the gamma-ray flux at  $E > 100$  MeV higher than  $1e-5$  ph/cm<sup>2</sup>/s, measured by the Fermi-LAT gamma-ray detector. The Dec. 2013 outburst showed an unusually hard power-law gamma-ray spectrum (photon index  $\sim 1.7$ ), and an asymmetric light curve profile with a few-hour time scale variability. The June 2015 outburst was extreme, with a record-breaking  $E > 100$  MeV flux of  $4e-5$  ph/cm<sup>2</sup>/s, more than  $10\times$  higher than the average gamma-ray flux of the Crab Nebula. The high flux prompted a Fermi-LAT Target of Opportunity pointing observation. The increase of exposure and the very high flux state of the source allowed us to resolve the gamma-ray flux on a sub-orbital time scales, revealing variability on time scales of tens of minutes. Here, we present the observational results of those outbursts from 3C279 with a focus on detailed analysis of the 2015 June outburst.

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