

Abstract Submitted
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A search for enhanced very-high-energy gamma-ray emission during the March 2013 Crab Nebula flare GREG RICHARDS¹, Georgia Institute of Technology, THE VERITAS COLLABORATION — In March 2013, a flaring episode from the Crab Nebula lasting ~ 2 weeks was detected by the Fermi-LAT (Large Area Telescope on board the Fermi Gamma-ray Space Telescope). VERITAS provides simultaneous observations throughout this period. During the flare, the Fermi-LAT detected a 20-fold increase in the synchrotron flux above 100 MeV from the Crab Nebula. Simultaneous measurements with VERITAS are consistent with the non-variable long-term average Crab Nebula flux at TeV energies. Assuming a linear correlation between the very-high-energy flux change > 1 TeV and the flux change seen in the Fermi-LAT band > 100 MeV during the period of simultaneous observations, the linear correlation factor can be constrained to be at most 8.6×10^{-3} with 95% confidence. The VERITAS observations are put in context with models that attempt to explain the nature of the observed flares.

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