

Abstract Submitted
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Fermi-LAT gamma-ray observations of 4FGL J0658.6+0636, candidate counterpart to the neutrino event IC201114A ISABELLA GUILHERME, RESHMI MUKHERJEE, QI FENG, Columbia University, VERITAS GROUP AT BARNARD COLLEGE AND COLUMBIA UNIVERSITY TEAM — Establishing a gamma-ray source also as a neutrino emitter could shed light upon the processes that produce ultra-high-energy cosmic rays. The neutrino event IC201114A was detected by IceCube on 2020-11-14 in the vicinity of the catalogued gamma-ray source 4FGL J0658.6+0636, associated with the active galaxy NVSS J065844+063711. We report an analysis of gamma-ray observations of 4FGL J0658.6+0636 over the timescales of 1-day, 1-month, 6-months, 1-year, 5-years and 10-years prior to the event with the Large Area Telescope (LAT) onboard NASA's Fermi Gamma-ray Space Telescope. This was done to better understanding the gamma-ray variability of the source and to search for any temporal correlation between the IceCube event and the gamma-ray emission. We found neither evidence for strong gamma-ray variability nor a significant detection with the time windows up to 1 year prior to the IceCube event. The lack of temporal correlation between gamma rays from 4FGL J0658.6+0636 and the neutrino event suggests that either the neutrino event is not from this source or the gamma rays are absorbed in the emitting region. Regular monitoring of this source and timely followup observations of future IceCube events will continue

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