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Rapid TeV Gamma-Ray Variability of Active Galactic Nuclei: the Case of BL Lacertae WEI CUI, Purdue University, VERITAS COLLABORATION — Gamma-ray emitting active galactic nuclei (AGN) are characterized by variability on a wide range of timescales across nearly the entire electromagnetic spectrum. This is an indication of the dominant role that the jet plays in radiation production. The variability provides a valuable tool to study, in a relatively model-independent way, the emission processes and geometry as well as the energetics of the jet in AGN. Here, we present the discovery of a rapid TeV gamma-ray flare from BL Lacertae with VERITAS. It is the first low-frequency peaked BL Lac object that shows the phenomenon. We discuss the implications of the observation.

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