

A Systematic Search for Short-Term Variability of EGRET Sources

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The 3rd EGRET catalog contains 170 unidentified gamma-ray sources, and there is great interest in the nature of these sources. One means of determining source class is the study of flux variability on time scales of days; pulsars are believed to be stable on these time scales while blazars are known to be highly variable. In addition, previous work has led to the discovery of GRO 1838-04, a candidate for a new gamma-ray source class. This source near the Galactic plane displays transient behavior but cannot be associated with any known blazars. These considerations have led us to conduct a systematic search for short-term variability in EGRET data, covering all viewing periods through cycle 4. Preliminary results indicate that strong short-term variability is not a characteristic of most EGRET sources.