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High Energy flares of FSRQs

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High-Energy gamma-ray flares ($E > 10$ GeV) of Flat Spectrum Radio Quasars (FSRQ) give us strong constraints of jet-physics, and of the surrounding-medium.

We performed the first study of these flares, examining FERMI-LAT archival-data, and triggering ~ 40 ToO-observations from near-ir to TeV (e.g., for PKS 1441+25), at the occurrence of new flares.

We identified ~ 260 gamma-ray flares. Among these, we investigated peculiar and short-flares of 3C454.3 and CTA102, showing remarkably hard gamma-ray spectra.

We show here the study of a sample of 12 FSRQs, and we discuss the broad-band spectra, and variability-timescales in terms of injection and cooling of energetic-particles, arguing that these flares originate at parsec distance from the Supermassive Black-Hole, powered by magnetic-reconnections or turbulence in the flow.

For the whole sample of 260 flares, we will show spectral and temporal properties, and the correlation with disk luminosity during flares.

emphasized text

Collaboration

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