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Symmetric variability of gamma-ray emitting blazars

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Symmetric and triangle-shaped flux variability in X-ray and gamma-ray light curves has been observed in many blazars. A statistical study of X-ray and gamma-ray variability in blazars suggests that the rise time of flares are nearly equal to the decay time on the average. It is usually believed that the X-ray emission of many blazars arises as synchrotron emission of electrons accelerated at a shock front moving down a jet, and that the gamma-ray emission is due to inverse Compton scattering by the electrons. However, there are no no conclusive models which represent the characteristic X-ray and gamma-ray variability with the rise time nearly equal to the decay time. In this paper, we present the results of exploration of the variability characteristics of gamma-ray emitting blazars by using the X-ray and gamma-ray archive data. We also discuss a comprehensible model to give a description of the characteristic X-ray and gamma-ray variability.

Collaboration

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Primary author: Prof. KENJI, Yoshida (Shibaura Institute of Technology)
Co-author: Mr MOTOKAWA, Yuji (Shibaura Institute of Technology)
Presenter: Prof. KENJI, Yoshida (Shibaura Institute of Technology)
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