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Significant detection of Quasi-periodic Oscillation in gamma-ray blazar

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The broadband emission in the blazar is highly anisotropic and non-thermal boosted along the jet axis and dominated by red noise. Any kind of periodic signature in their light curve is buried in the red noise and therefore a sophisticated method is required to detect them if they are present. Recently, the presence of a QPO signal is proposed or detected in the gamma-ray light curve of many blazars, and in some cases detected with above 3σ significance with 3-4 cycles. Many models have been proposed to explain the QPO of different time scales.
I will be talking about a blazar where we have detected the QPO signal of range of time scale from a few tens of days to years and more importantly above 4σ and above 4 cycles. Our detection of the QPO signal strongly backs the idea of a curved-jet model in a blazar.

Track

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