# Long term variability in blazars

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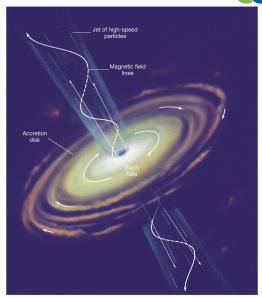
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## Blazar





#### Motivation



- Blazars exhibit rapid varying emissions.
- Extensive effort in multiwavelength observations.
- Most research focuses on individual flares.
- Continuous observations in i.e. X-ray and Fermi γ-ray frequencies presents the opportunity to study the long term variability.

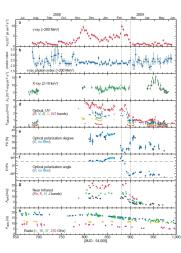


Figure: Fermi-LAT Collaboration & 3C 279 multi-band campaign (2010)

### Aim



- Inferring the causes of variability from modelling of power spectral densities (PSD) from long term light curves.
- Testing leptonic and lepto-hadronic models which are currently used to explain blazar emissions.
- Construct parameter variation patterns from given PSD's.
- Study resulting multiwavelength light curves, PSD's and cross correlations.

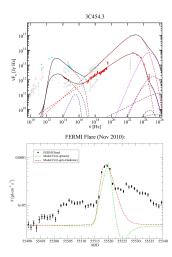


Figure : Diltz & Böttcher (2016)



## Questions



All questions are welcome. Advice is much preferred!