Location of the γ-ray emitting regions in blazars from the perspective of both observations and theory

WG1: June 22, 2010

Where could the γ-rays be coming from?

1. “The Core”
2. Close to BH (<1ly)
3. The Jet, superluminal features
4. Dust Torus (seed photons)
5. …

Yeah, you wished…

What do we all agree on today?

- ….

What we couldn't agree on

- What actually is "the core"?
  - τ=1 surface (moving with obs. frequency)
  - Physical feature, i.e., independent of obs. frequency
    - Standing Shock
    - Source of radio variability
- What actually is a γ-ray flare?

Problems

- There are γ-ray events, which seem to be connected to optical flares, core variability and ejections. But many γ-ray flares are not obviously associated with VLBI core/jet variability
- Lack of LAT data for quiescent states
- Test statistics on the connection between
  - Optical flare and EVPA changes
  - VLBI core variability
  - Component ejections
- Test hypothesis of γ-ray production near the BH

Some (new) ideas

- (SJ) Monitor variability of emission lines in response to an optical/γ-ray flare
- (EV) Concentrate on boring sources
- Fill the SED-gap between mm and optical
  - More community Herschel proposal (AM: “Beware of the Dust People”)
- (mostly all) Get more data
- (All) Save the VLBA