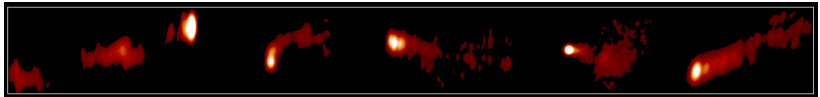


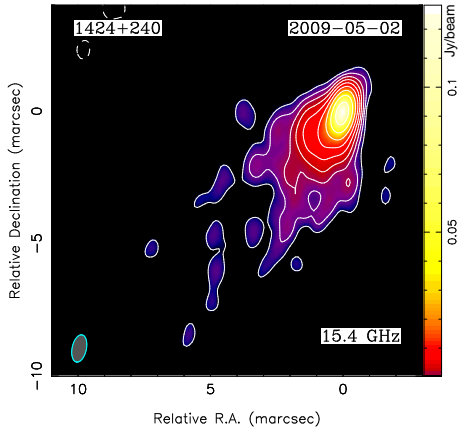
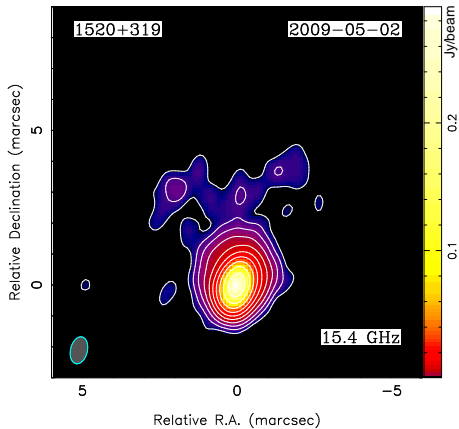
Jet opening angles and gamma-ray brightness of AGN

A.B. Pushkarev, Y.Y. Kovalev, M.L. Lister, T. Savolainen
and the MOJAVE collaboration

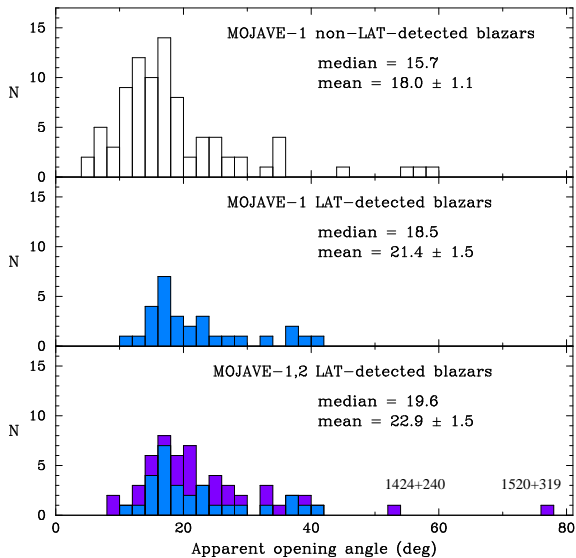
Bonn, April 7, 2010
Steady Jets and Transient Jets
Characteristics and Relationships



Bright gamma-ray LAT-detected blazars at 15 GHz



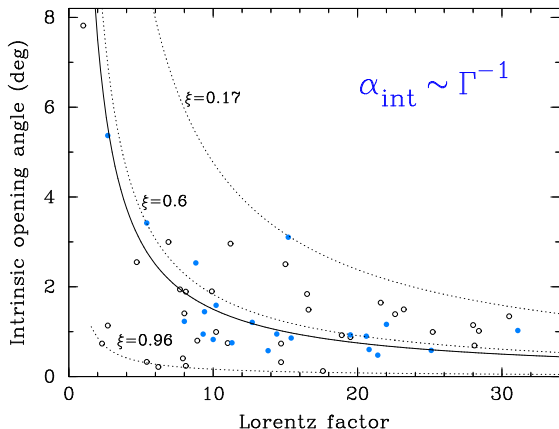
Apparent opening angles



What does it mean?

- smaller viewing angle (projection effect)
- intrinsically different properties (e.g. sheaths)

Intrinsic opening angle vs Lorentz factor



In agreement with theoretical predictions for

- gas dynamical (Daly & Marscher, 1988) and
- magnetic acceleration jet models (Komissarov et al. 2007)

Summary

- Apparent opening angles for γ -ray bright sources are on average larger than those in γ -ray weak ones
- Intrinsic opening angle distributions are statistically indistinguishable
- γ -ray bright blazars to have preferentially smaller viewing angles and stronger relativistic beaming
- Intrinsic opening angle and the Lorentz factor are found to be inversely proportional.