Contribution ID: **25** Type: **Oral + Poster**

VLBI Jet Kinematics of the TeV Blazar Mrk 421

Thursday, September 20, 2018 4:45 PM (20 minutes)

In September 2012, the blazar Mrk421 showed a remarkable and distinct radio flare most prominent at cm wavelengths, following a similar flare at gamma-ray energies that occured about 40 days earlier. The radio flaring bahavior indicates the injection of fresh plasma into the jet, which may lead to the formation of a new jet component on parsec scales. This can be verified in analysis of the VLBI jet structure. Hence, data from the Boston University Blazar Monitoring Program are used to study the VLBI jet structure of Mrk 421 before, throughout, and after the period of the multiwavelength flaring event. We investigate 15 epochs from January 2012 through July 2013 observed with the Very Long Baseline Array (VLBA) at 7mm wavelength. We find no major change in the parsec-scale jet structure of Mrk421, indicating that any perturbation at the base of the jet associated with the flare did not travel to scales resolved by VLBI.

Authors: WAGNER, Sarah; Prof. KADLER, Matthias; Dr HOVATTA, Talvikki; Mr BURD, Paul Ray; FLORIAN , Rösch; SCHMIDT, Kevin

Presenter: WAGNER, Sarah

Session Classification: Radio