

Delving Deeper into Blazar Cores with 3mm GMVA Polarimetric Observations

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In order to investigate the high energy emission and jet formation in blazars, we study a sample of gamma-ray bright AGN in a combined 7mm / 3mm VLbi monitoring program. Here we present total and linearly polarized GMVA images of a sample of blazars from the VLBA-BU-BLAZAR program, obtained from May 2016 to March 2017. The lower opacity at 3 mm and high angular resolution, of the order of 50 microarcseconds, allow us to measure the angular sizes of the most compact features, which can be compared with those observed at 7 mm with the VLBA for the determination of the jet's physical parameters.

Moreover, Faraday rotation and spectral index analysis between the two frequencies (3 and 7mm) provide us information about the three-dimensional structure of the magnetic field with unprecedented angular resolution.