

Results from RadioAstron polarization observations of 3C345

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Supermassive black holes (SMBHs) in the centres of radio-loud active galactic nuclei (AGN) produce collimated relativistic outflows (jets). Space-VLBI observations within the RadioAstron key science program on AGN polarization provide images at an unprecedented resolution, which enables us to study the magnetic field strength and morphology in the innermost regions of AGN jets. We present here images from 1.6 GHz RadioAstron and 5, 8 and 15 GHz ground VLBI observations of the sub-parsec scale jet in the powerful blazar 3C345, revealing the complex jet structure and polarization on scales down to ~50 microarcseconds. We show a preliminary analysis of these images and discuss potential implications of the structures observed to the jet launching and collimation processes taking place on these scales.