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Space VLBI studies of AGN: Extreme physics at extreme baselines.

Monday, 5 July 2021 18:30 (30 minutes)

Very long baseline interferometry (VLBI) probes cosmic phenomena at the highest angular resolution in astronomy, with the present record set at about 10 microsecond of arc. This record is achieved in space VLBI (SVLBI) observations of the Russian-led RadioAstron mission which combined a worldwide array of radio telescopes with a 10-m antenna in orbit around the Earth. Continuing on the path of SVLBI studies set off by the TDRSS experiments in the USA and the Japanese mission VSOP, RadioAstron provided the most detailed account of the inner jet regions and the highly energetic processes governing them. Results from RadioAstron Key Science Programs on AGN imaging have revealed an intricate structure and extreme brightness temperature of the jet plasma in these regions, probing the physical processes which govern formation and acceleration of jets. A brief summary of these results and some prospects for future space VLBI missions will be presented here.

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