

Space VLBI Observations of Gamma-Ray Sources

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HALCA, the first dedicated satellite for Very Long Baseline Interferometry observations on Earth-space baselines, was launched by Japan's Institute of Space and Astronautical Science in February 1997. Observations with HALCA and ground-telescopes are made as part of the VLBI Space Observatory Programme (VSOP). VSOP observations are undertaken at 1.6 GHz ($\lambda 18$ cm) and 5 GHz ($\lambda 6$ cm), with extragalactic, radio-loud, flat-spectrum sources predominant in the observing schedule. Many GeV and TeV gamma-ray sources have been observed as part of the General Observing Time, and also as part of the mission-led VSOP Survey Program of ~ 300 Active Galactic Nuclei.

This paper will very briefly describe the VLBI Space Observatory Programme, and review the results of observations from a number of the gamma-ray sources that have been observed to date, including 3C279, Mkn 421 and Mkn 501, as well as some of the prominent sources that have not been detected at gamma-ray energies. VSOP observations offer the highest resolution imaging possible at these frequencies and are therefore an important ingredient in our understanding of these sources.