

THE ITAPETINGA CONTRIBUTION ON NORTH-SOUTH HIGH RESOLUTION VLBI EXPERIMENTS

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Since the very beginning of the Itapetinga 45-ft antenna operations in 1971, there were plans to use it as a southern hemisphere VLBI terminal for high north-south resolution. The first successful VLBI tests were performed on water vapor lines in cooperation with Haystack Observatory in 1978 in one of the last runs using the MkI system. This cooperation led to the construction of a MkII terminal for Itapetinga years later (1981–1983). Astrophysical VLBI runs have been carried out since 1984, with the cooperation of Caltech, producing maps of unique resolution on stronger quasars, especially on 3C273 whose evolution has been followed since then. Recently, Bonn joined the collaboration in astrophysical VLBI programs. Itapetinga also participated successfully in geodetic surveys, and in the Vega-Venus mission, in collaboration with JPL and French organizations CNES, Observatoire de Paris and IGN. Plans for continuation and expansion of the Itapetinga VLBI participation in international efforts depend strongly on support to maintain and upgrade instrumentation at the Brazilian Radio Observatory.