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THE IMPACT OF VLBI ON ASTROPHYSICS AND GEOPHYSICS

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On the 20th anniversary of the first coherent Very Long Baseline Interferometric (VLBI) observations and the 100th anniversary of the discovery of radio waves by Hertz and of the Michelson-Morely experiment, an international meeting of experts in the field of VLBI was held in Cambridge, Massachusetts, U.S.A. to discuss recent progress. VLBI images achieve resolution approaching 10^{-4} arcseconds and the relative positions of telescope can be determined with accuracies of about 1 centimeter. These unique capabilities have lead to dramatic results with major impact on the fields of astrophysics and geophysics as diverse as quasars and active galactic nuclei, interstellar and stellar masers, gravitational lenses, radio stars, astrometry, and cosmology. Papers on geophysics included topics in geodesy, precession, nutation and polar motion of the Earth, variations in universal time, regional crustal deformation, and continental drift. Also included in these proceedings are papers discussing the latest technical advances in the field of VLBI both for ground-based observations and future space-based interferometric systems.

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