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VLBI experiment with the Huygens Probe during its descent in the atmosphere of Titan: an evidence for meridional wind

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Phase-referencing VLBI observations of the Huygens Probe were performed during its descent in the atmosphere of Titan on 14 January 2005 using a global network of 17 radio telescopes. The Probe's position in the Titanographic frame was determined with the accuracy of about 1 km relative to a priori (DTWG) trajectory for altitude range from 150 to 20 km. Offsets of the order of 10 km from a priori trajectory in both longitudal and latitudal directions were measured, thus allowing us to estimate the meridional velocity of the probe's motion in southward direction at a level of 3.5 m/s with a 0.7 m/s (1 sigma) uncertainty.