

VLBI with GNSS-signals on intercontinental baselines

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Since several years the idea of Very Long Baseline Interferometry (VLBI) observations using signals of Global Navigation Satellite System (GNSS) satellites is discussed as a potential approach to improve the accuracy of the terrestrial reference frame. The expectation is that such observations could improve the link between the two space geodetic techniques GNSS and VLBI. A number of experimental observing sessions have been performed during the last years to test this idea and to gain experience with this type of non-standard VLBI observations. These test sessions used primarily regional VLBI networks in Europe and Australia. Recently, we performed VLBI observations with GNSS-signals on intercontinental baselines, including the VLBI stations Onsala (Sweden), Hartebeesthoek (South Africa), and Zelenchukskaya (Russia). These observations are part of a pilot project of the European Space Agency (ESA) within their Alcantara programme and aim at achieving synergies between VLBI and GNSS. Data were successfully collected, correlated and post-processed, and analyzed with a geodetic VLBI data analysis software. We briefly describe these sessions, and present first preliminary results.