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Geodetic VLBI, Earth rotation and the Sagnac effect

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Geodetic Very Long Baseline Interferometry (VLBI) measures the group delay and phase rate in the barycentric reference frame. Apart from the barycentre velocity, the observables are sensitive to the geocentric motion of the telescopes. This results in a non-zero closure delay and closure phase rate (as a sum of the three values around the closed triangle of baselines).
The resultant closure delay is consistent with the Sagnac effect equation (usually applied to the ring laser interferometer technique) and could be used to measure the angular velocity of the Earth rotation.
Apart from the angular rotation, the resultant closure phase also includes the kinematic accelerations of two radio telescopes. As the magnitude of the acceleration is tiny (up to 2 cm*s$\hat{}$-2) its contribution to the phase rate is less than 1 pks/s. Nonetheless, this effect is detectable at the current level of VLBI observational accuracy. Many possible applications are foreseen.
The closure delay may be used for the self-calibration of VLBI observations, and the Sagnac effect could be used to probe the gravitational field of the Earth.