



Using geodetic VLBI to test Standard-Model Extension

Aurélien Hees (1), Sébastien Lambert (2), and Christophe Le Poncin-Lafitte (2)

(1) Dept Mathematics, Rhodes University, Grahamstown, South Africa, (2) SYRTE, Paris Observatory, PSL Research University, France (sebastien.lambert@obspm.fr)

The modeling of the relativistic delay in geodetic techniques is primordial to get accurate geodetic products. And geodetic techniques can also be used to measure the relativistic delay and get constraints on parameters describing the relativity theory. The effective field theory framework called the Standard-Model Extension (SME) has been developed in order to systematically parametrize hypothetical violations of Lorentz symmetry (in the Standard Model and in the gravitational sector). In terms of light deflexion by a massive body like the Sun, one can expect a dependence in the elongation angle different from GR. In this communication, we use geodetic VLBI observations of quasars made in the frame of the permanent geodetic VLBI monitoring program to constrain the first SME coefficient. Our results do not show any deviation from GR and they improve current constraints on both GR and SME parameters.