Quickmaps and history of the effects of ionospheric scintillations on GPS/GLONASS signals.

J.J. Valette¹, B. Nhun Fat¹, P. Yaya¹, F. Boucquaert², P. Lassudrie-Duchesne³, M. Chouffot⁴, U. Hugentobler⁵, C. Hanuise⁶, J.L. Issler⁷, J. Lanciaux⁸, R. Warrant⁹

¹ Collecte Localisation Satellites – Toulouse, France
² Fugro – Massy, France
³ Ecole Nationale Supérieure des Télécommunications – ENST, Brest, France
⁴ Direction Générale de l’Aviation Civile - DGAC, Toulouse, France
⁵ Astronomical Institut University of Berne – AIUB, Berne, Switzerland
⁶ Laboratoire de Physique Chimie de l’Environnement – LPCE, Orléans, France
⁷ Centre National d’Etudes Spatiales - CNES , Toulouse, France
⁸ Rockwell-Collins - Toulouse, France
⁹ Royal Observatory of Belgium – Brussels, Belgium

Global and near real time monitoring of the ionospheric scintillations across the perturbations they induce on the GPS/GLONASS signals is one of the activities selected by ESA for the Space Weather Pilot Experiment. For main working tracks will run the investigation for the most relevant identification and intensity estimation of the scintillations. There are: the analyses of the observation losses and cycle slips on both frequencies, the power attenuation and finally the phase fluctuations. The data processing strategy and calibration process will be presented.

The characteristics of the service including the design, the products, the databank will be detailed. They will be linked to the present partners needs and to the future potential users needs. We also draw a distinction between a basic service and an added value service. Present status of the project and future main development steps will be shown.