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Project SX5 – development of a new tool for ionospheric investigations and Czech participation in

Jan Lastovicka, Josef Boska, Dalia Buresova, and Dan Kouba
Institute of Atmospheric Physics, Aeronomy, Prague 4, Czech Republic (jla@ufa.cas.cz, +420 2 7276 2548)

SX5 is a project conducted by a consortium of 6 partners in 2010-2011 (2 years). It is funded by the European Union within the 7th Framework Programme and supervised by the GNSS Supervisory Authority GSA. Its main topic is the scientific exploitation of the Galileo broadband E5 signal. An E5 receiver and a scientific software application prototype will be developed as well as applications to various fields including ionospheric investigations. The Galileo E5 broadband signal features an ultimately low code range noise and the lowest possible multi-path errors compared to all other signals of all other GNSS. Ionospheric investigations with SX5 will be directed into four areas: (1) Vertical total electron content and its horizontal gradients. (2) Travelling ionospheric disturbances and gravity waves. (3) Ionisation layer coefficients for the NeQuick/IRI. (4) Ionospheric scintillations. More details about the project and our participation in will be given in the paper.