



## **GNSS NavAer network to support ionospheric monitoring**

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GNSS NavAer is a project under development in Brazil with the leadership of Universidade Estadual Paulista UNESP. The main aim of the project is to accomplishing a detailed analysis of the ionosphere errors decorrelation models in order to identify safe operation period for precise landing systems, like GBAS (Ground Base Augmentation System) and SBAS (Space Base Augmentation System) considering the conditions of the ionosphere in Brazil. For reaching such purpose, a network of GNSS receiver able to monitoring several aspects of the ionosphere, including scintillation, will be deployed. The network will be composed of Ionosphere Scintillation Monitoring Receivers (ISMRs), providing among other parameters, TEC (Total Electron Contents), S4 (amplitude scintillation parameter) and SigmaPhi (phase scintillation parameter). Such network, the so called GNSS NavAer, will be an expansion of the previous very well stablished network, named CIGALA-CALIBRA network. It was stablished with support of FP7-GALILEO-2009-GSA (European GNSS Agency), FP7-GALILEO-2011-GSA-1a and FAPESP and is composed of 12 receivers. With the new 27 receivers to be deployed, such network will have around 40 receivers at total. The ISMR Query Tool (Vani, Shimabukuro and Monico, (2017)), that has been used so far will be improved in order to capture the innovations of this network. In this presentation the GNSS NaVAer, together with the new features of the ISMR Query Toll will be presented. Some preliminary results in the context of Brazilian sub-regions and periods for applications like GBAS will also be presented and discussed.

VANI, Bruno César; SHIMABUKURO, Milton Hirokazu; MONICO, João Francisco Galera. Visual exploration and analysis of ionospheric scintillation monitoring data: The ISMR Query Tool. *Computers & Geosciences* (2016), <http://dx.doi.org/10.1016/j.cageo.2016.08.022> .