

Current developments in SWIPPA 'Space Weather Impact on Precise Positioning Applications of GNSS'

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Abstract

SWIPPA (Space Weather Impact on Precise Positioning Applications of GNSS) is a project, initiated by DLR, aiming at establishing a specific space weather (SW) service for improving current Global Navigation Satellite System (GNSS) applications. This activity is considered as being a substantial part of the preparations for the future European Space Weather Programme and GALILEO services.

The SWIPPA project started with the definition of service, including user requirements, products, and related technical service definition.

Following on the multiple discussions within the project consortium, all requirements of each user service have been carefully considered. It was important to obtain information on issues such as: which products are most needed and which should have higher priority than others, the optimal spatial and time resolution, products improvements, etc. The established information security and classification policy within the project is of primary importance and is strictly observed to protect the rights and interests of the SWIPPA customer.

As a result of the user requirements, the final SWIPPA products list has been created. The products list include various nowcast and forecast maps, expert estimates, warning geophysical messages, etc. A sub-set of the listed products can become available to the SWENET (Space Weather European Network) and general public members following their interest and further discussions.

Based on the user requirements and the products definition, the most adequate technical solutions have been sought and found considering the powerful technological base and rich experience available at DLR. All information will be operationally processed at the DLR premises, the products will be developed and placed on FTP server(s) providing near real-time access to the most recently generated data products.

The 'definition of service' part has been successfully completed.

The SWIPPA project continued recently with the establishment of service, including the built up of infrastructure and central processing facilities. Preliminary navigation data and products have been already transferred between DLR and its partners/users for testing purposes.

In resume, the project is progressing well in time. The efforts are first in this field and require each space-weather service to be carefully adjusted to the specific needs of the SWIPPA users.

