Current status and expected improvements of ionospheric reprocessing

Hernandez-Pajares, M.

gAGE/UPC, SPAIN

The purpose of this talk is to summarize the present status and expected results in the reprocessing of the IGS Global Ionospheric Vertical Total Electron Content Maps (GIMs), as a result of the official IGS call, happened few months ago.
Indeed, the IGS GIMs are being computed since June 1998, as the weighted combination of the different GIMs processed by the involved agencies (presently CODE, ESA, JPL and UPC). During this time, the ionospheric techniques used by the agencies have experienced significant improvements: tomographies, physical models, increase of temporal resolution, better interpolation techniques, are some relevant improvements, introduced by different analysis centers. In such situation the backward recomputation of IGS GIMs, proposed in the context of the general IGS campaign, can provide a significantly better ionospheric product from IGS.
To illustrate that, we will summarized as well an approach based on the UPC interpolation algorithm, adapted from the Kriging technique, which allows not only the improvement of its own estimation, but the improvement of the ionospheric maps computed by other agencies as well, in a very simple and straightforward way. This fact could be quite convenient for the IGS reprocessing task. The first results obtained with this technique in the computation of the GIMs for the year 2000, show an improvement of 10% or more for practically all the analysis centers.