

## ***Interactive comment on “Using sparse regularization for multiresolution tomography of the ionosphere” by T. Panicciari et al.***

**Anonymous Referee #1**

Received and published: 23 June 2015

The aim of the paper entitled “Using sparse regularization for multi resolution tomography of the ionosphere review” by Panicciari et al. is to test different approach to retrieve high resolution total electron content (TEC) structures at regional scale. For that the authors simulated TEC values and compared different methods to access the best way to retrieve the ionospheric structures in input.

Among all the test, the wavelet analysis seems to be the most relevant to retrieve abnormal ionospheric behaviour. However, the authors supposed a fixed ionosphere in their tests while the method used is time dependent. Even if this assumption is mentioned in the conclusion it is difficult to be confident and to draw general conclusions on the efficiency of this new method.

For that reason, I recommend to the authors to make additional tests with a ionosphere  
C251

changing with time (e.g. for a full day of observations, with and without structures) in order to validate the method.

The method is there and well developed, this shouldn't take many times to the authors and will validate the conclusions.

Sincerely yours

---

Interactive comment on Nonlin. Processes Geophys. Discuss., 2, 537, 2015.