

# RADIO AMATEURS EFFORTS IN IONOSPHERIC STUDIES

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## ABSTRACT

Radio-amateurs have always been involved in, and are willing to pursue (and be informed about) research on ionospheric propagation.

Among many individual or coordinated radio-amateur projects, like the well-known NCDXF worldwide automatic beacon project or the DK0WCY aurora beacon in Germany, AMSAT-Italia since the end of the year 2000 initiated a space-based radio-amateur programme aiming to contribute to the international research effort on Space Weather and ionosphere.

The full programme, divided into coherent sub-projects, intends to support the worldwide radio-amateurs and scientific communities for more reliable communications through the ionosphere.

The Sub-projects are :

- **SkyWave** : the Space Segment of the mission, based on a small satellite that will carry one (or more) scientific instrument(s) specific to the ionosphere, as well as radio-amateur communications payloads.
- **Ionosfera** : the Ground Segment of the mission. It is basically a web site that will inform the international community on the state of the mission and will allow Users to obtain information on propagation (communication forecasting and analysis) and Space Weather. About this last, the information will be provided either as measured by the satellite (in quasi real-time) or as collected from the European Space Agency (ESA) Space Weather European Network (SWENET).

Ionosfera indeed has been selected by the European Space Agency (ESA) at the beginning of 2003 to be a part of its programme on Space Weather. The website is reachable at : <http://esa-spaceweather.net/sda/ionosfera/>

- **RATS** : it is the (main) scientific payload proposed to be embarked on SkyWave and also planned to be developed within the radio-amateur community.

The programme and its three sub-projects are on-going. After a review of the main radio-amateur projects running today all over the world in support to the study of the ionosphere, the paper will present the status of our programme, its achievements and long-term plans.