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DIAS is a demonstration project co-funded by the [eContent](#) programme of the European Commission, of two years duration (2004 - 2006).

DIAS consortium members:

- [National Observatory of Athens, Greece \(Co-ordinator\)](#)
- [University of Athens, Department of Telecommunication and Informatics, Greece](#)
- [Rutherford Appleton Laboratory, Council for the Central Laboratory of the Research Councils, UK](#)
- [National Institute of Geophysics and Volcanology, Italy](#)
- [Swedish Institute of Space Physics, Sweden](#)
- [Leibniz Institute of Atmospheric Physics, Germany](#)
- [Space Research Center, Polish Academy of Sciences, Poland](#)
- [Blustaff S.p.A., Italy](#)

DIAS data contributors:

- [Pruhonice Ionospheric Station Institute of Atmospheric Physics, Czech Republic](#)
- [Observatori de l'Ebre, Spain](#)

NEWS

DIAS Final Conference

The final Conference of DIAS project will be held in **Rome** on **May 19, 2006**.



The venue is Hotel Forum, located in the historical city centre of ancient Rome at only 200 metres far from the Colosseum.

DIAS Web Demonstrator and DIAS server prototype

Two interfaces are available to evaluate DIAS services. The [WEB DEMONSTRATOR](#) is available to **anyone** who would like to view a display of all the DIAS services in their final form. This Demo gives the opportunity to explore the DIAS products and services for a pre-selected period (from 5th to 14th of September 2005).

The [SERVER PROTOTYPE](#) offers, to **registered users**, online access to added-value products of real-time ionospheric data over Europe.

DIAS Training kit

The training kit for DIAS user includes a new release of [DIAS brochure](#) and the demonstration CD of DIAS products and services.

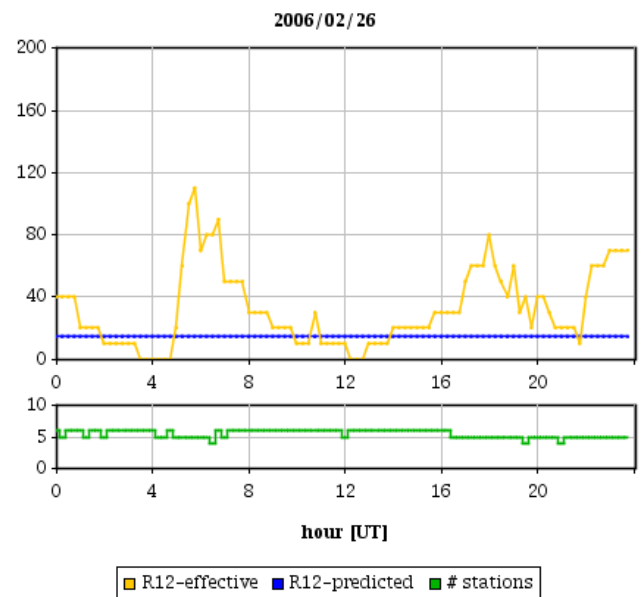
It is possible to receive the web demo CD asking for it at the address: dias@ingv.it.

TUTORIAL

Why monitor the ionosphere during the solar minimum? DIAS has the answer.

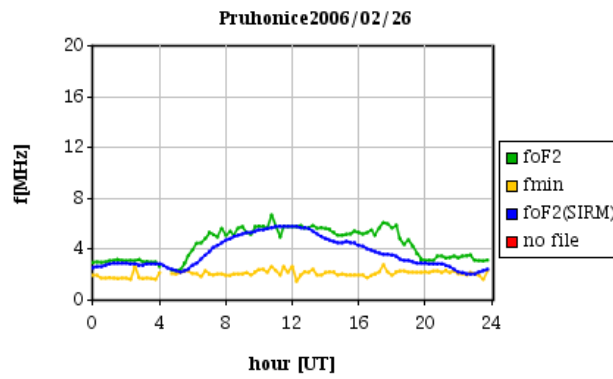
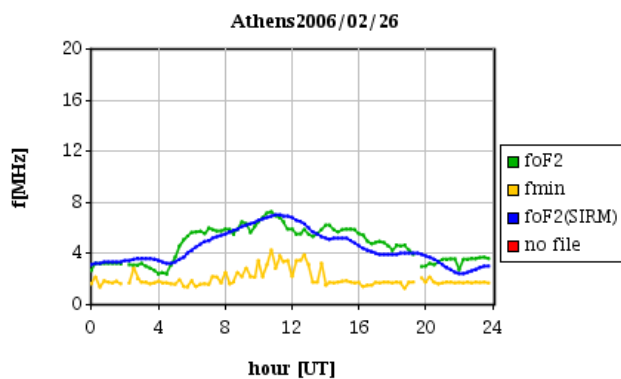
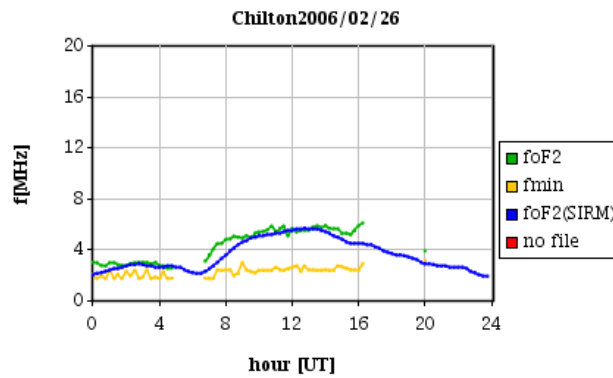
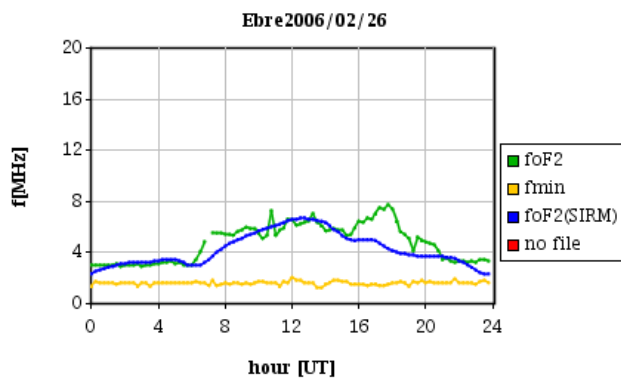
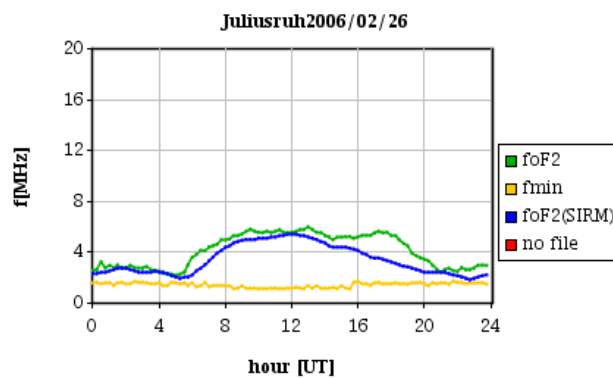
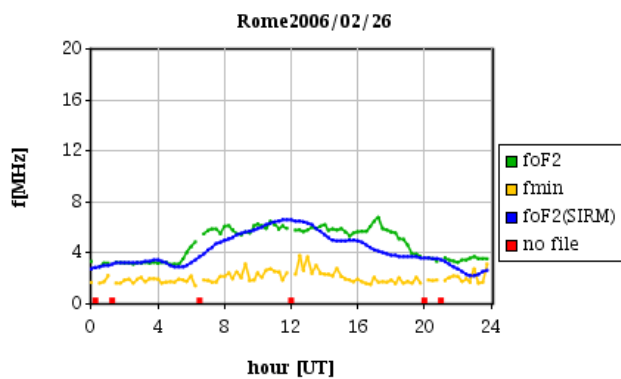
It is well known that the activity of the Sun follows a cycle with a period of about eleven years. Actually the solar activity is experiencing a quiet period due to the descending phase approaching the next minimum predicted for 2007. Nevertheless, experimental observations show that a quiet Sun doesn't necessarily mean a quiet ionosphere. For this reason the monitoring of the ionosphere is needed also during periods of low solar activity, like the current period. For an example see the picture below from the DIAS prototype, showing the evident difference between the R_{12} predicted (blue) derived **only** from solar observations and $R_{12\text{effective}}$ derived from solar and ionospheric (foF2) information, the latter

ones derived from five DIAS ionosondes as reported by the green line.



An ionospheric disturbance happened on February 26, 2006, as revealed by the pictures below retrieved from the DIAS prototype. In the figures one can see the F-plots (for details see issue 2 - June, 2005) as seen from DIAS ionosondes. This is an immediate way to have, at first glance, an overview of the ionospheric condition, providing information on the eventual deviation from the predicted F behaviour. In the case here considered one can easily recognise a deviation of the observed foF2 values (green) from those predicted by SIRM (blue) around 17 UT. Looking at the ground-based observations acquired at high latitudes it seems that at that time an intense sporadic E layer occurred occulting the reflection on the F layer. Generally, high latitude ionosphere is more sensitive to this kind of perturbations, while at mid latitude, where the majority of the DIAS ionosondes are located, the effect could be less dramatic. Anyway, an enhancement of the foF2 frequency with respect to that predicted is clearly visible, especially over Ebre and Rome.

This example confirms that, in spite of a good reliability of the models as SIRM, the HF users need to have access to continuous and systematic monitoring of the ionosphere to successfully plan their radio links via the validated information provided by DIAS service.



RELATED CONFERENCES

- EGU General Assembly
Vienna, Austria
2 - 7 April 2006
<http://meetings.copernicus.org/egu2006/>
- International Advanced School on Space Weather
Abdus Salam International Center for Theoretical Physics
Trieste, Italy
2 - 19 May 2006
http://cdsagenda5.ictp.trieste.it/full_display.php?ida=a05201
- IEE Ionospheric Radio Systems and Techniques conference
London, UK
18 - 21 July 2006
<http://conferences.iee.org/IRST2006/>
- 36th COSPAR Scientific Assembly
Beijing, China
16 - 23 July 2006
<http://www.cospar2006.org/>
- Third CNES Workshop On Earth-Space Propagation
Toulouse, France
25 - 27 September 2006
<http://www.cnes.fr/>

PRESENTATION OF DIAS RESULTS IN INTERNATIONAL MEETINGS

3rd EGU Assembly (Vienna, Austria, 2 - 7 April 2006), session ST5.7 "Measurements of ionospheric parameters influencing radio systems"

["Ionospheric specification and forecasting based on observations from European ionosondes participating in DIAS project"](#)

A. Belehaki, Lj. Cander, B. Zolesi, J. Bremer, C. Juren, I. Stanislawska, D. Dialetis and M. Hatzopoulos

CALL FOR CONTRIBUTIONS TO DIAS NEWSLETTER

If you would like to submit a short contribution for the next issue of the DIAS newsletter, please contact the editorial office: DIAS@ingv.it.

PUBLISHED PAPERS ABOUT DIAS

"DIAS Project: The establishment of a European digital upper atmosphere server", Belehaki A., Cander Lj., Zolesi B., Bremer J., Juren C., Stanislawska I., Dialetis D., Hatzopoulos M., *Journal of Atmospheric and Solar-Terrestrial Physics*, Vol. 67, no. 12, pp. 1092-1099, 2005.

The goal of DIAS is to develop a pan-European digital data collection on the state of the upper atmosphere, based on historical data collections and on real-time information provided by ionospheric stations belonging to Public European Research Institutes. DIAS services, such as radio propagation characteristics for the European region, ionospheric maps, alerts and warnings for ionospheric disturbances, etc., will be useful for large number of HF communication and navigation systems users and will contribute to the formation of a network of public research institutes and private sector users. For the effective exploitation of DIAS products and services a network of users will be established that will work together with DIAS data providers to bring out the full potential of this type of information.

Detailed information about the project can be found on [DIAS home page](http://www.iono.noa.gr/DIAS/) (<http://www.iono.noa.gr/DIAS/>).

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