

SpacEarth Technology Srl
INGV spin-xoff

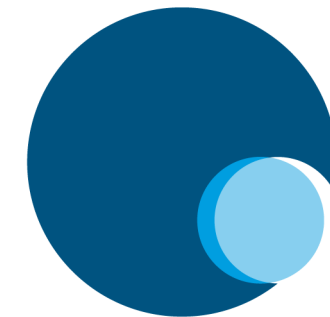
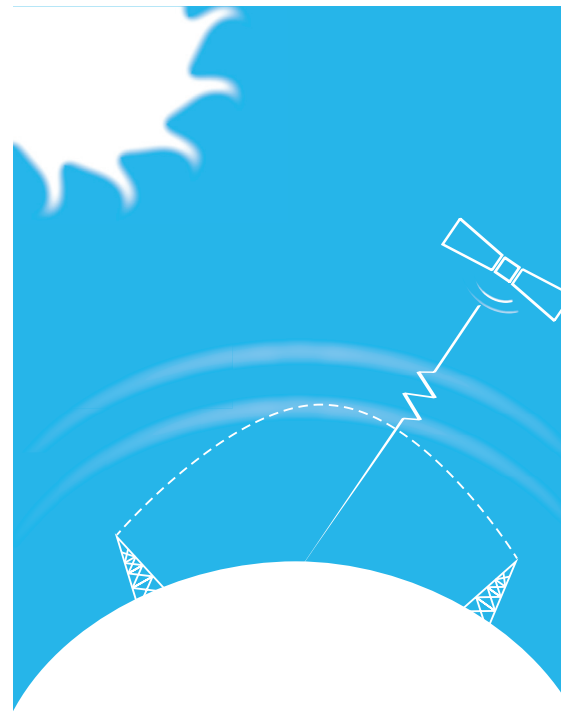
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SpacEarth Technology is a spin-off of Istituto Nazionale di Geofisica e Vulcanologia, INGV, currently the largest European body dealing with research in Geophysics and Volcanology.

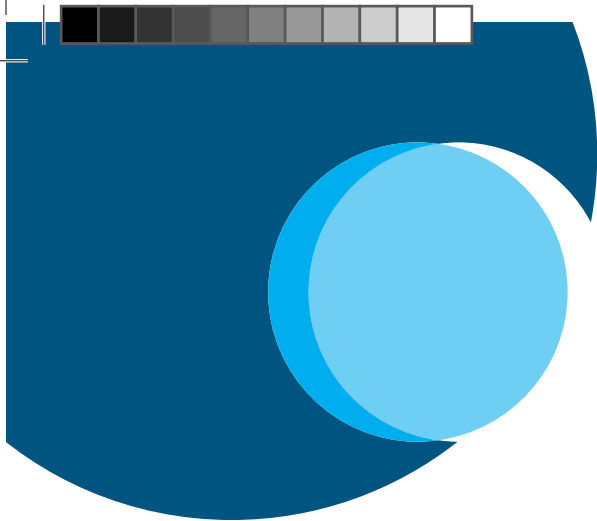
SpacEarth Technology is composed by a team of engineers, physicists and geologists with a long involvement in research: Upper Atmosphere Physics, Space Weather, Satellite Navigation and Positioning, Environmental Geophysics, Marine Monitoring, Remote Sensing and Training. Realising innovative products and services is our goal thanks to the knowledge and technological transfer from the excellence in research results.

design by laboratorio grafica & immagini INGV



INGV spin-off
SPACEARTH
TECHNOLOGY
challenging the innovation

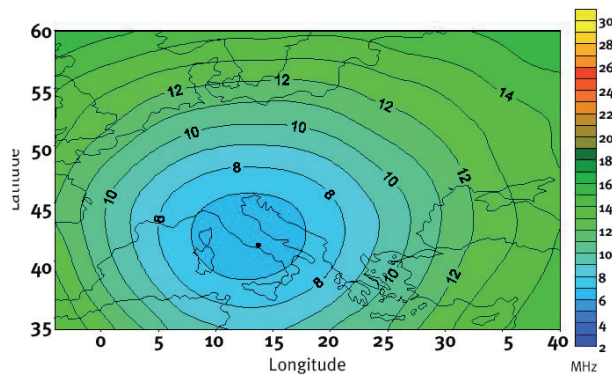




SPACEARTH TECHNOLOGY APPLICATION AREAS

With our expertise in several Geophysics applications, we offer highly customizable solutions in:

- Radio Propagation
- Space Weather
- High Precision GNSS
- Marine Monitoring
- Environmental Geophysics
- Data Management and Elaboration



Long term forecast for the Maximum Usable Frequency over Europe



AIS ionosonde ADVANCED IONOSPHERIC SOUNDER

AIS is an efficient, and simple as well, instrument capable to investigate Earth ionosphere.

Designed and carried out employing the most advanced radar techniques, it allows to get an ionogram with limited peak power, keeping dimensions and weight low with respect to similar instruments, and above all the reliability of the measurement due to the usage of coded pulses.

Various specimens of AIS are currently working in ionospheric observatories placed in different continents.

AIS is integrated with auto scaling software for real time estimation of ionospheric parameters. Modern tools for data management, interoperability and elaboration are part of the system. Outputs follow the international standards defined by scientific and technological communities (e.g. URSI, IRI, IAGA, COSPAR).

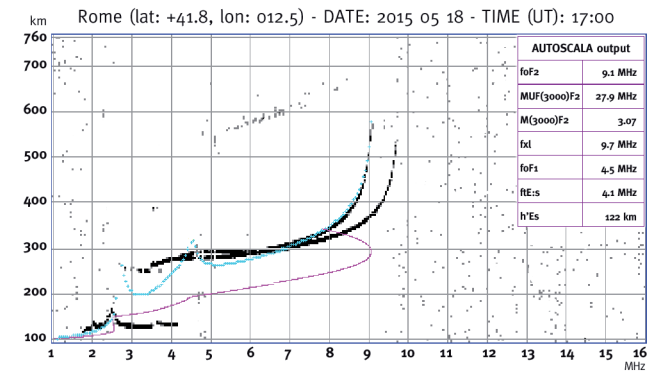
MAIN FEATURES

- Type of instrument** Pulsed radar for vertical ionospheric sounding
- Sounding control** Fully configurable by PC
- Sounding mode** Scan or single frequency
- Frequency range** 1-20 MHz
- Scan duration** 3 min (typ.)
- Transmitted power** 50-500 W peak (250 W typ.)
- Receiver** Triple conversion with I-Q detection
- Height range** 90-760 km
- Height resolution** 5 km
- Pulse encoding** Complementary bi-phase
- Pulse integration** Coherent
- Data output** Numerical and graphics, compatible with GIRO network
- DB infrastructure** Available with a web interface
- Applications** Research, Radio Propagation, Space Weather

AUTOSCALA SOFTWARE

Drawing of the electron density profile

Real time estimate of ionospheric parameters: foF2, MUF(3000)F2, M(3000)F2, foF1, h'Es, and others



Sample of a real time autoscaled ionogram