Horizon Europe 2022 Call factsheet

Space Weather

Current space weather models are generally not capable of forecasting events over several days. A longer forecasting horizon would require access to data from new observation infrastructure coupled with new and improved modelling capabilities.

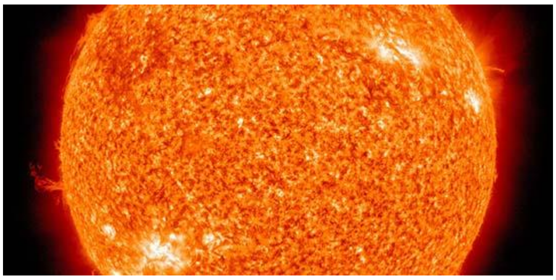
Scope:

- New modelling including ab-initio simulations;
- Development of modelling capabilities and/or the delivery of prototype services able to interpret a broad range of observations of the Sun's corona and magnetic field, of the Sun Earth interplanetary space and of the Earth magneto/iono/thermo-sphere coupling relying on existing observation capacities;
- Validate and harmonize the currently available data from existing services and identify gaps in data and model availability;
- Training of models using deep-learning techniques;
- Inventory of potential early indicators of extreme space weather events;
- Complementary and coherent activities with ESA;
- On ground demonstration tests;
- Ground instruments: densification of ground instrument networks and development/improvement of new instrument concepts;
- Complementary and coherent activities with existing space weather services.

Topics:

- Prepare Europe for a full exploitation of space weather data by a renewed effort on modelling and forecasting using currently available data;
- Develop concepts to provide space weather data, forecasts and warnings;
- Improve scientific understanding of the origin and evolution of space weather phenomena;
- Improving SWE restitution and prediction capabilities using artificial intelligence / deep learning techniques;
- Develop new services for both scientific purposes and terrestrial infrastructure monitoring;
- Acceleration innovation of enabling technologies.

Call overview, Produced 01/10/2021. Visit our website www.opencalls.space



The indicative budget for this category is EUR 2.00 (Million).

Reference:
HORIZON-CL4-2022-SPACE-01-62
Research and Innovation
Opening: Oct 28 2021
Deadline: Feb 16 2022

Countries

all

Technology

Space Weather systems, Deep learning, data modelling, Ai

Activities

Data modelling, Prototyping, testing, instrument development

Contact

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