Space Weather Introductory Course for Aviation

7 December 2026 - 9 December 2026

Royal Observatory of Belgium - Directors Building

Scientific Programme

0-PECASUS: Space Weather Services for civil aviation
The PECASUS consortium provides a space weather service for ICAO. We will present the in-house expertise.

1-Disturbances of Satcom, GNSS and HF
What sort of disturbances do users of Satcom, GNSS and earth observation space systems have to deal with? Radio signal variations due to passing through the ionosphere, e.g. delay and amplitude

2-Earth systems: magnetosphere and ionosphere
Magnetosphere and ionosphere as the key systems for SATcom, GNSS and HF. The ionosphere is the region where waves for GNSS, HF and SATcom propagate.

3-Ionosphere and ionospheric weather
The ionosphere as a dynamical system which changes over time (days, seasons, solar cycle) and place (equator, mid-latitude, high-latitude, North, South)
Drivers of ionospheric weather, including space weather

4-Particle radiation
Solar particle radiation that results in a Ground Level Enhancement.
Impact of particle radiation on the human body.

5-Space Weather Advisories
We will discuss the parameters and thresholds used in the ICAO space weather advisories.

6-Space storm: case study
Discussion to identify and describe both users and service providers and to identify where they can be brought together.