Course: Space Weather impacts on Aviation - Online

Monday, 4 March 2024 - Tuesday, 5 March 2024

online - zoom platform

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-Space weather and its impact on the Earth's environment and spheres
Definition of space weather
Earth: thermosphere and ionosphere, plasmasphere and magnetosphere

3-Intro to the 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

4-Intro to particle radiation
Solar particle radiation that results in a Ground Level Enhancement.

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

6-Space storm: case study
The April 2023 will be used as a case study. We will run over the observations and data resulting in ICAO Space weather advisories sent.