

Panels (P)

Space Weather Nowcasting and Forecasting Capabilities for Improved Space Weather Services:
The Role of Validation and Performance Assessment in Enabling R2O and O2R (PSW.1)

COMPARISON OF RADIATION MODELS FOR ICAO SPACE WEATHER SERVICES

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Under the auspices of the International Civil Aviation Organization (ICAO), a space weather information service started on Nov. 7, 2019, and now four global centers, SWPC, PECASUS, ACFJ and CRC operate this service, handing over its responsibilities every two weeks. The

requested information is to ensure stable use of HF communication and GNSS, and to avoid excessive human exposure to radiation. The products provided by the four global centers would ideally be indistinguishable. However, in the present status each center uses its own system for space weather nowcast/forecast, which does not guarantee a harmonized information. This is especially the case of the assessment of radiation doses caused by relativistic solar energetic particle events called ground-level enhancements (GLEs). For solving this issue, we compared the results of the radiation models used in the four global centers. We chose a specific event, GLE69 (Jan. 20, 2005) for comparison. The results show that all models have similar trends, but quantitatively differ from each other. We will address first ideas on how to solve this issue