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Fengyun Meteorological Satellite Products for ICAO Space Weather Services

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ICAO has identified space weather as potential hazards that affect aviation operations. There are four ICAO global Council-designated space weather centres which monitor and provide advisory information on radiation levels at flight altitudes, GNSS-based navigation and positioning, and HF communication.

This paper presents a review on the FY satellite products, which contribute to space weather advisory service for civil aviation. The space environmental detectors on FY-2 include X-ray flux monitor and energetic particle monitors. The real-time data provides crucial information for the solar radiation storms and solar proton events which are used to issue the alert for civil aviation users. FY-4B are useful for alerting the onset of geomagnetic storm. FY-3E consists of multi-angle ionospheric photometer and Solar X-ray Extreme Ultraviolet Imager (X-EUVI). The X-EUVI could provide the early warnings of solar activities which could have possible impacts on the Earth’s environment. The geomagnetic field measurements of The electron density profiles provided by RO measurements of FY-3 with high vertical resolution and global coverage are useful supplements to the traditional ionospheric observations. FY-4C solar measurement will consists of X-EUV flux and EUV image. FY-4C will also carry on multi-wavelength ultraviolet ionospheric imager.