

The ECP-Lite Space Radiation Sensor is a space-worthy device that can be hosted on satellite platforms to provide in situ sensing of the space weather environment. Collecting space weather information on-board the host satellite provides situational awareness of the radiation environment and hazards such as surface charging or single event effects (SEEs) that operators or algorithms can use to adjust the operating parameters of other instruments (e.g., switching to “safe mode”). The data also can be leveraged to explain anomalies in telemetry or unusual spacecraft behavior. Collected data can be used on board the spacecraft, at a dedicated ground station, or shared with a central database maintained by a Government agency to contribute to improved knowledge of the natural/ambient radiation environment in orbit regimes of operational relevance to satellite operators. This could be a “one stop shop” for space weather analysis data to complement observations from the Space Weather Prediction Center operated by the National Oceanic and Atmospheric Administration (NOAA).

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