

Toward cycle 25: Future perspective on space radiation environment in the inner heliosphere

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During solar cycle 25, Japan and international community plan to proceed toward lunar and Marian exploration. The space radiation environment from GCR, the solar energetic particle (SEP) and the trapped particles cause serious damage of the spacecraft, the international gateway and human activity. For example, the intermittent enhancement of SEP associated with the solar flare prevent human activity on the lunar surface and causes serious damage on astronauts during the cruising phase to Mars. Therefore, understanding on the physical process of these space radiations and prediction their variability will be one of the important subjects of the space weather for upcoming cycle 25. We would like to review possible future perspective for studies on space radiation environment for solar cycle 25 by showing several examples of new observations and modeling.

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