Project Details

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Project Title:
A Proposal to Host an All Clear Forecasting Workshop

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Summary:
Central to the objectives of the LWS program and NASA's Exploration Initiative are the hazards that explosive events on the sun pose to the safety of humans and technology both on the ground and in space. On the ground, critical electrical grid component damage, voltage control problems, protective system mis-operations and GPS outages can occur due to the impacts of geomagnetic disturbances. For NASA, space weather monitoring starts days before launch and continues throughout the mission. Prediction of a very low probability of significant solar activity, an 'all clear' forecast, will help mission planners determine periods of time when extra-vehicular activity (EVA) may be conducted with low risk of exposure to solar energetic particle events or energetic storm particles. 'All clear' forecasts become critical for protecting future expeditions into interplanetary space as crews will be at an increased risk of exposure compared to the current short duration low-earth orbit (LEO) missions where the Earth's magnetic field provides significant protection. The ability to predict intervals with a low likelihood of solar activity is of paramount importance to ensure that operations continue safely without disruption. Current scientific efforts are underway to explain the processes of the sun and some of the models being developed have the potential to benefit both government and civilian operations. We therefore propose to host a workshop focused on transitioning focused research models into operational tools for all clear forecasting.

Publication References:

no references