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Poster
The gLOWCOST (global LOW–COst cosmic ray muon detector network for monitoring of dynamic changes in Space and Terrestrial weather) cosmic ray muon detector network—led by Georgia State University—provides continuous, ground?based monitoring of space weather using a globally distributed array of low?cost detectors. The network currently comprises more than 20 detectors across 10 countries. Most stations operated stably during the significant geomagnetic storms of November 2025 and January 2026, enabling clear observations of associated Forbush decreases. In addition, detectors located in North America registered the Ground?Level Enhancement (GLE) event that occurred in November 2025. The Forbush decrease amplitudes ranged from approximately 0.5% to 4.5% during the November events and from 2% to 7% during the January event.
A major strength of the gLOWCOST network is its ability to capture these disturbances on a global scale, facilitating comparative analyses across sites with different latitudes, longitudes, altitudes, and geomagnetic cutoff rigidities. The current study is focusing on calculations of the primary median energies corresponding to each detector site. This capability will broaden the range of primary energies sampled by the network, providing complementary coverage to existing ground?based cosmic?ray observatories and enabling improved characterization of space weather events in terms of their energy dependence.
Poster session day
Tuesday, April 28, 2026
Poster location
10
Meeting homepage
2026 Space Weather Workshop
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