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Poster
Society’s increasing dependence on space for defense and commercial needs requires a new, comprehensive examination of the ionosphere-thermosphere (IT) region, in order to improve our fundamental understanding of space weather processes. Further, we need to determine the most crucial real-time space weather quantities required for expanded activities and maintaining leadership in LEO. The Geospace Dynamics Constellation (GDC) Mission will provide this understanding through multiscale measurements of energy input from the magnetosphere to the ionosphere-thermosphere, its effects in the IT region, and internal processes throughout the IT system. GDC's six satellites will characterize the IT system and its geomagnetic drivers from ~375 km altitude. This mission will make unprecedented multi-point orbital measurements of ionospheric and thermospheric density, composition, and temperature, magnetic and electric fields, and ionospheric variability. The measurements and science advancements will inform our understanding of the processes that change atmospheric densities, cause ionospheric scintillation, and drive ionospheric currents, with effects on satellite drag, navigation/communication, and geomagnetically induced currents.

Data from GDC's six science instruments plus a set of dosimeters onboard each of six spacecraft will be available for operational use. GDC is a crucial pathfinder for future space weather observations and pipelines that will contribute to the prioritization of data needs for future operational platforms. This poster will present details of the draft data products and request feedback on optimizing operational impact. The GDC mission also encourages applied research that will help ensure the maximum space weather impact of these data.

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