National Aeronautics and Space Administration

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Global-scale Observations of the Limb and Disk



revolutionizing our understanding of the space environment

www.nasa.gov

Global-scale Observations of the Limb and Disk (GOLD) is a NASA mission of opportunity that will fly an ultraviolet (UV) imaging spectrograph on a geostationary satellite—at an altitude of 22,236 miles—to measure densities and temperatures in Earth's thermosphere and ionosphere.

The goal of the mission is to provide answers to key elements of an overarching question for heliophysics science: What is the global-scale response of the thermosphere and ionosphere to space weather above and the lower atmosphere below?

The measurements from GOLD will be used, in conjunction with advanced models, to revolutionize our understanding of the space environment.

GOLD will:

provide unprecedented imaging of the Earth's upper atmosphere from geostationary orbit;

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- be the first mission to study the weather of the thermosphere-ionosphere rather than its climate; •
- make breakthrough measurements of temperature and composition that are important for satellite drag, and ٠ ionospheric disruptions of communication and navigation; and
- fly as a hosted payload on a commercial communications satellite, pioneering NASA's cost-effective access to geostationary orbit.



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