Cosmic Origins UV STIG

presents the

Quorum for Ultraviolet Exploration of Science and Technology

- Thursday 18 November 2021 – 15:00 -16:00 EDT
- https://zoom.us/j/93103444034?pwd=OFlvYWtwcUg5Y0VNL2xQQnd0TjVmZz09
- QUEST07 Speaker

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LUMOS, a multi-object UV spectrograph for a future Large IR/O/UV + Exoplanet mission: instrument concept and technology maturation on the SISTINE sounding rocket

Abstract: The decadal survey recently recommended a Large IR/optical/UV space telescope to pursue an ambitious program of exoplanetary discovery and characterization and cosmic origins astrophysics. The decadal survey report recognized that many of the galactic ecosystem, exoplanet, and stellar science goals of a "LUVEx-like" mission require high-throughput, imaging and spectroscopy at ultraviolet through optical wavelengths (100 – 1000 nm). I will present an overview of the LUMOS instrument concept, a UV spectrograph and imager, developed by the LUVOIR STDT. LUMOS offers point source and multi-object spectroscopy across the UV bandpass, with multiple resolution modes to support different science goals. The instrument provides low (R ~ 14,000), medium (R ~ 20,000 – 50,000), and high (R > 100,000) resolution modes. Multi-object imaging spectroscopy over a 2 × 2 arcminute field-of-view is enabled by microshutter arrays (MSA) that build on the heritage NIRSpec on the James Webb Space Telescope (JWST). The spectroscopic capabilities of LUMOS are complemented by an FUV imaging channel (100 – 200nm, 50 milliarcsecond angular resolution, 1.2 × 1.2 arcminute field-of-view) offering a complement of narrow- and medium-band filters. All of these parameters will be reassessed in the definition of a future LUVEx-like observatory; the LUMOS concept serves as a demonstration that such an instrument is within the reach of the astronomical community in next two decades.

- Instructions for joining UV STIG mail list
  - https://cor.gsfc.nasa.gov/stigs/uvstig/maillist/uvstig_maillist.php