



UV Spectroscopy Brassboard

Principal Investigator: James Mcguire (383); Co-Investigators: Daniel Wilson (389), Charles Manning (389), James Wu (Raytheon)

Program: FY22 R&TD Strategic Initiative
Strategic Focus Area: UV Spectroscopy - Strategic Initiative Leader: Margaret A Frerking

Objectives:

Advance UV diffraction grating manufacturing, subject to availability of resources..Perform characterization of LiF2 (radiation darkening and fluorescence). Purchase a clean vacuum chamber to support UV technology development and test of a future UV instrument.

Background:

JPL sees UV spectrometers as a growth area. Advanced far-UV spectrometers will require superior gratings and/or LiF prisms for refractive elements. Development of UV technology and instruments requires clean vacuum chambers and these resources are limited, so we are buying a chamber to be used exclusively for UV hardware

Approach and Results:

We measured radiation darkening and refractive index changes of LiF samples down to 120 nm,.
We bought a UV vacuum chamber

Significance/Benefits to JPL and NASA:

The radiation testing of LiF down to 120 nm will allow it to be used in future far UV instruments.
The new vacuum chamber will remove a bottle-neck to UV technology and instrument development at JPL

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Jet Propulsion Laboratory
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Publications:

(if any)

PI/Task Mgr. Contact Information:

Email: James.P.Mcguire@jpl.nasa.gov