

# Physics Department Seminar

March 28, Friday at 2pm in SCI 250

## The Final Frontier:

Space Science Missions from Phase-A to Phase-F

Dr. Lena E. V. Heffern

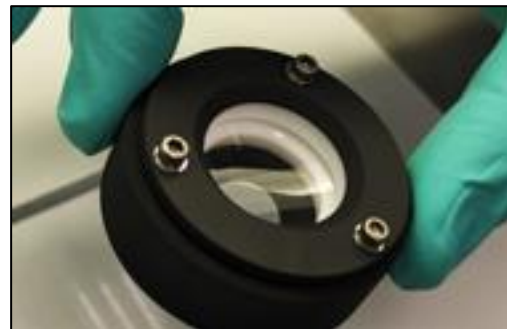
University of Colorado Boulder Laboratory for Atmospheric Space Physics



Space missions depend on communication between scientists and engineers. Science questions, goals, and objectives; engineering requirements, inventory, limitations, etc.; all these bits and pieces go into the larger picture targeted on answering *the fundamental questions of the universe*. From understanding what a science decadal survey is and how mission goals are formulated, to sizing a crystal and modeling the output response of a radiation instrument, this talk will cover broad multi/interdisciplinary topics from a high-level down to real examples of low-level science and/or engineering with *an added bonus of "show and tell."*

How did the Gruithuisen Domes on the Moon form? What are they? How do we take

measurements to answer formation hypotheses for such an area? How much water ice are in the lunar south pole craters? How did it get there? How do we measure it? Can we? Does solar activity affect our measurements on the Moon? How do we measure solar activity? Get ready to boldly go down the space exploration rabbit hole in pursuit of answering the fundamental questions of the universe (what are they?).

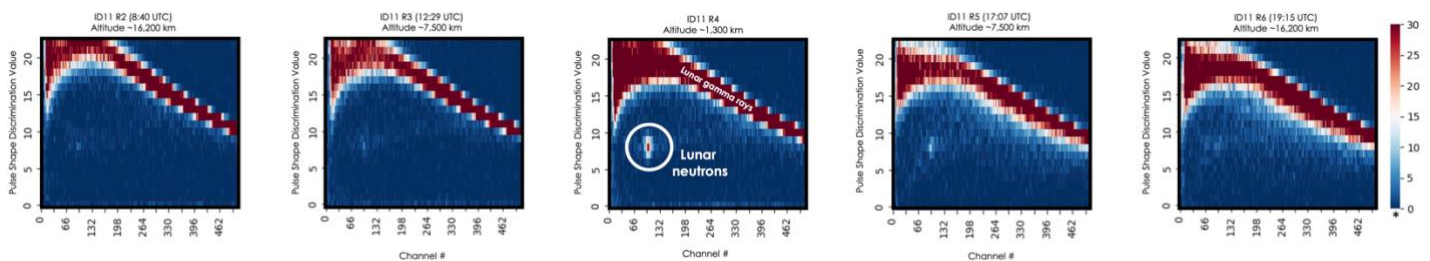


## LunaH-Map Mini-NS Lunar Flyby

APPROACH

CLOSEST APPROACH

DEPARTURE



Quicklook (Raw) Data

Closest approach at 15:30 UTC (8:30AM MST) on Nov 21<sup>st</sup>, 2022

\*Redder colors indicate higher signal