



Seismometer for a Lunar Network (SLN)

PI: S.H. (Hop) Bailey University of Arizona (UA)

Platform: Lander or Rover

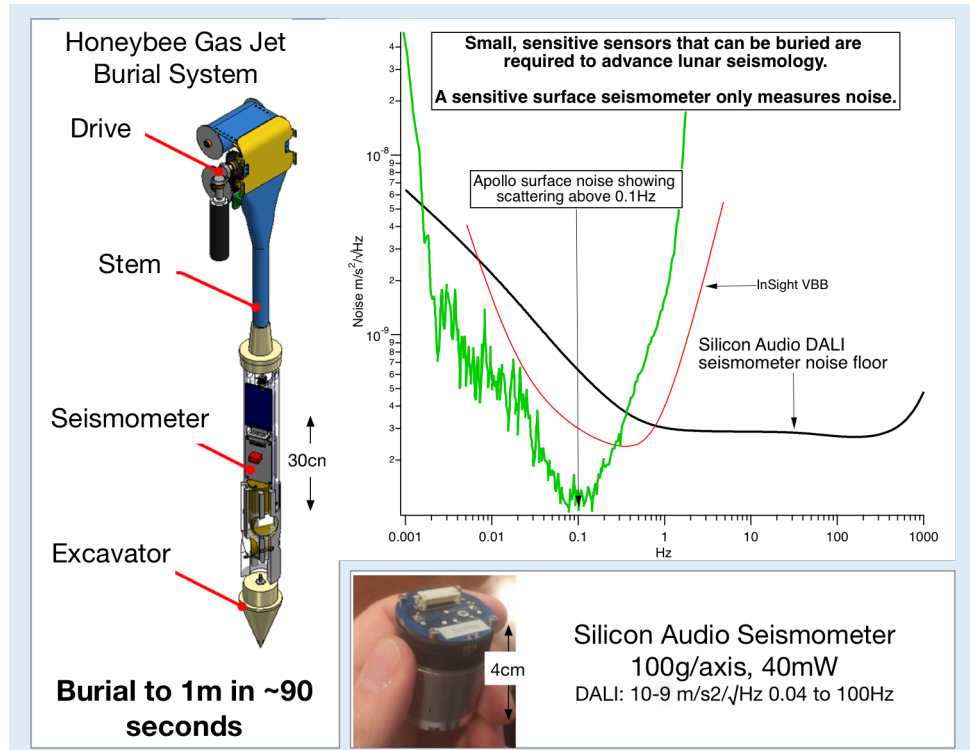
Science:

- Internal lunar structure including mantle composition, stratification and possible overturn, and lateral structure.
- Lunar mantle and core structure to infer thermal, petrological, and rotational history. Is there a fluid-like transition layer between the lunar core and mantle?
- Frequency and distribution of natural moonquakes.
- Meteorite impacts
- Hemispherical dichotomies of crustal thickness, mare volcanism, and the distribution of heat-producing elements by measuring seismicity on the far side of the Moon.

Objectives:

- Improve the sensitivity of the optical three-axis COTS Silicon Audio seismometer by a factor of 10 and raise the TRL from 4 to 6.
- Demonstrate burial with the Honeybee Robotics system raising the TRL from 4 to 5.

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Key Milestones:

- Y1: Systems engineering; seismometer and burial system design
- Y2: Seismometer fabrication and test; burial system fabrication and test
- Y3: Seismometer and burial system integration and test.

TRL (4) to (6)