Scoping MEMS seismometers for deployment on the Moon

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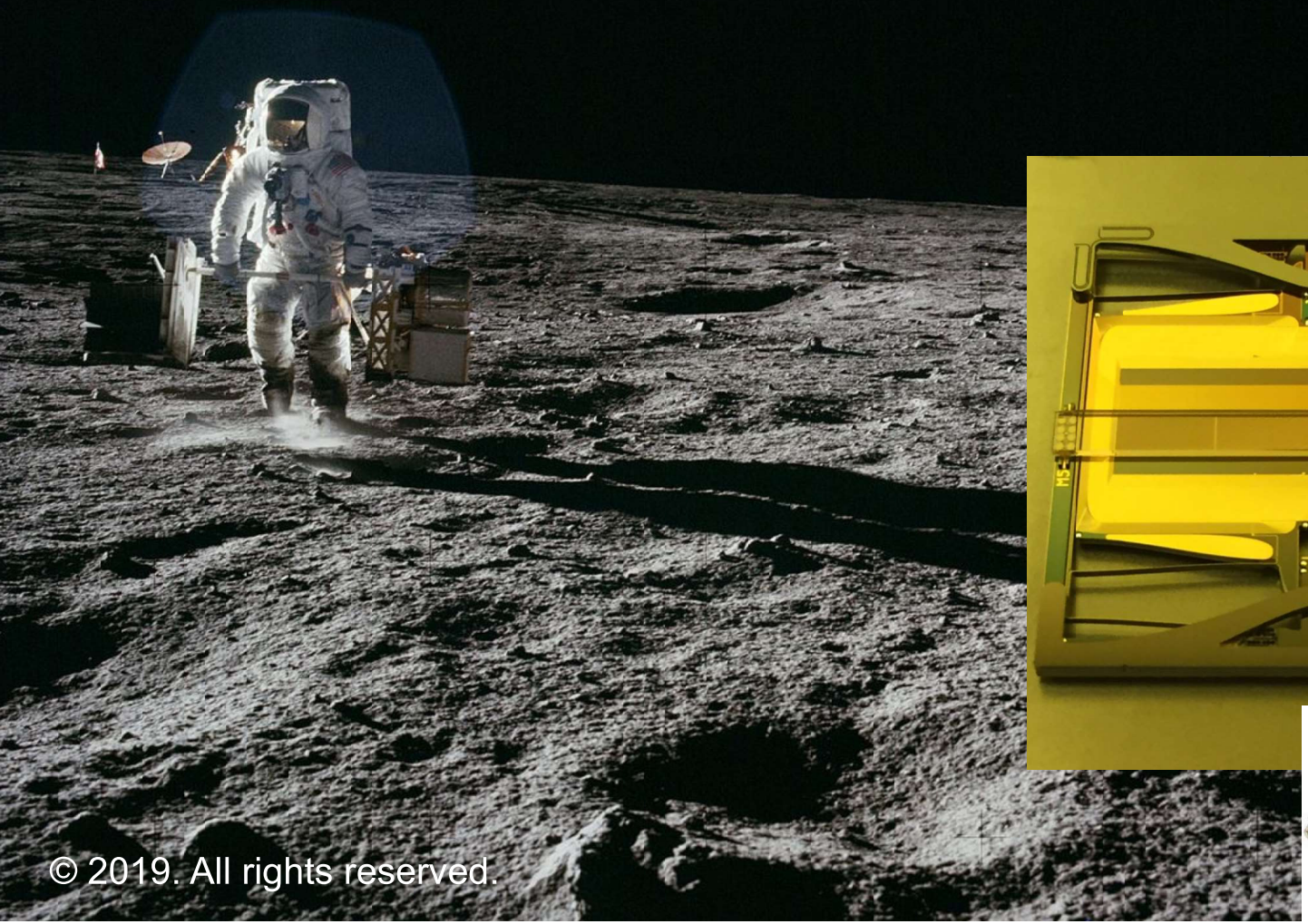

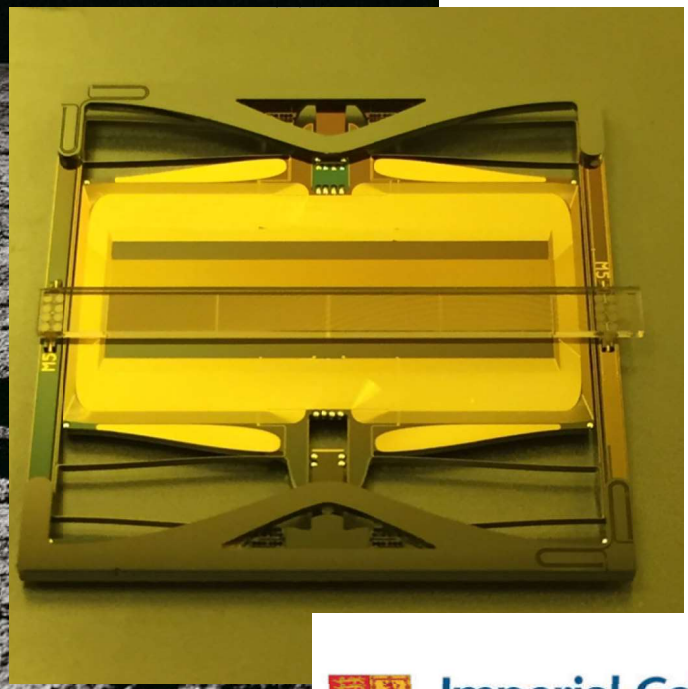

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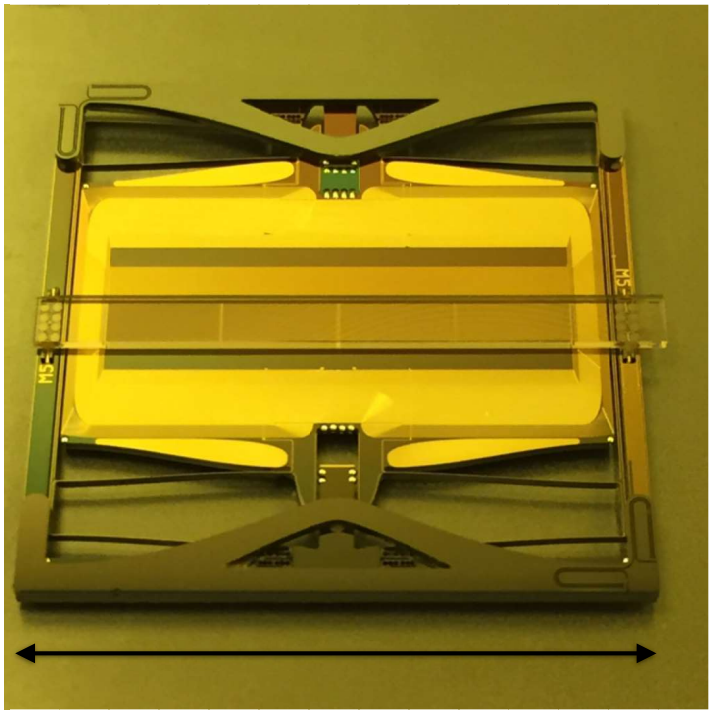
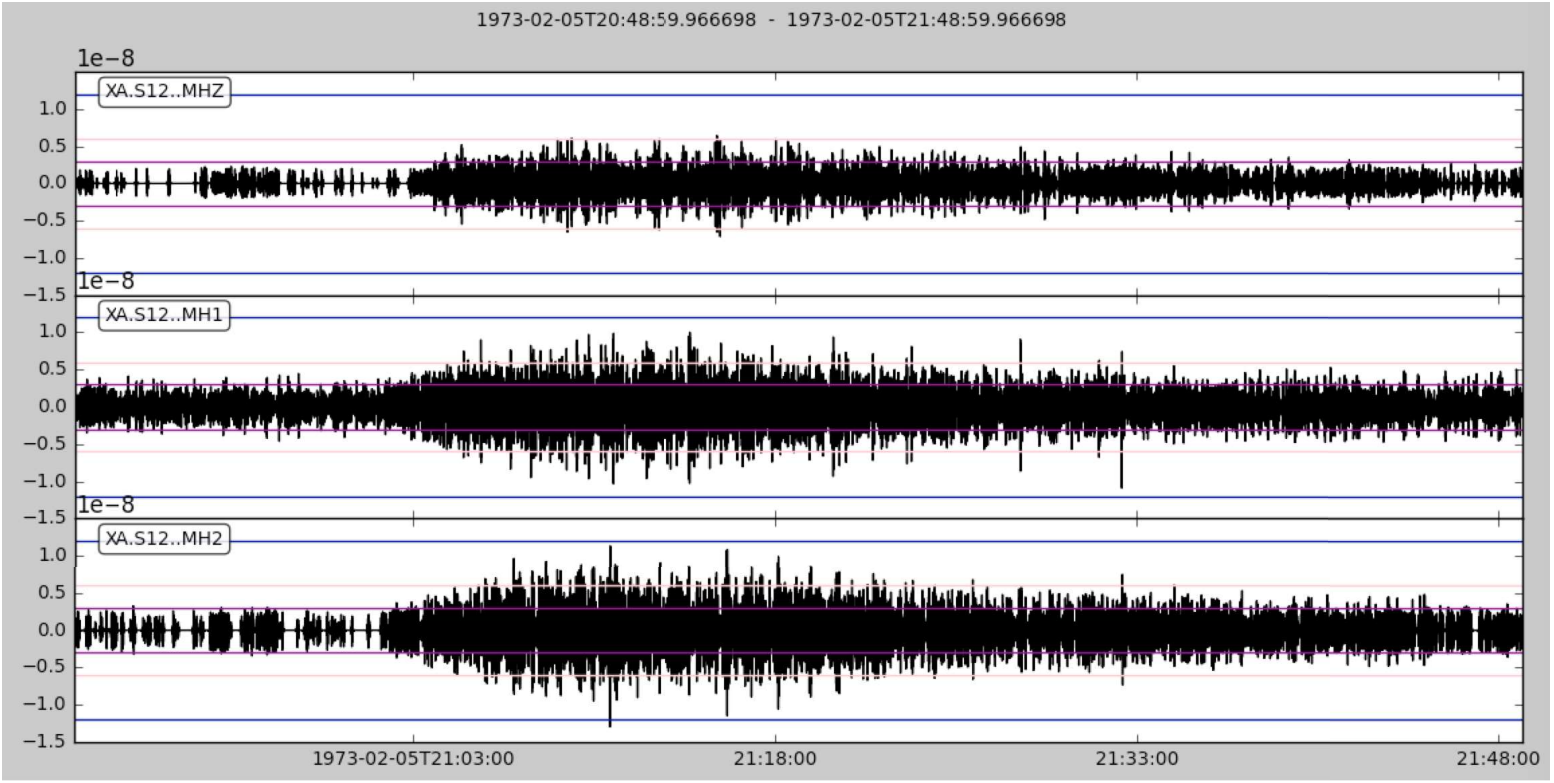
MEMS Seismometers



25 mm

Micro-Electro-Mechanical Systems (MEMS) sensors are small, lightweight sensors etched on a silicon wafer.

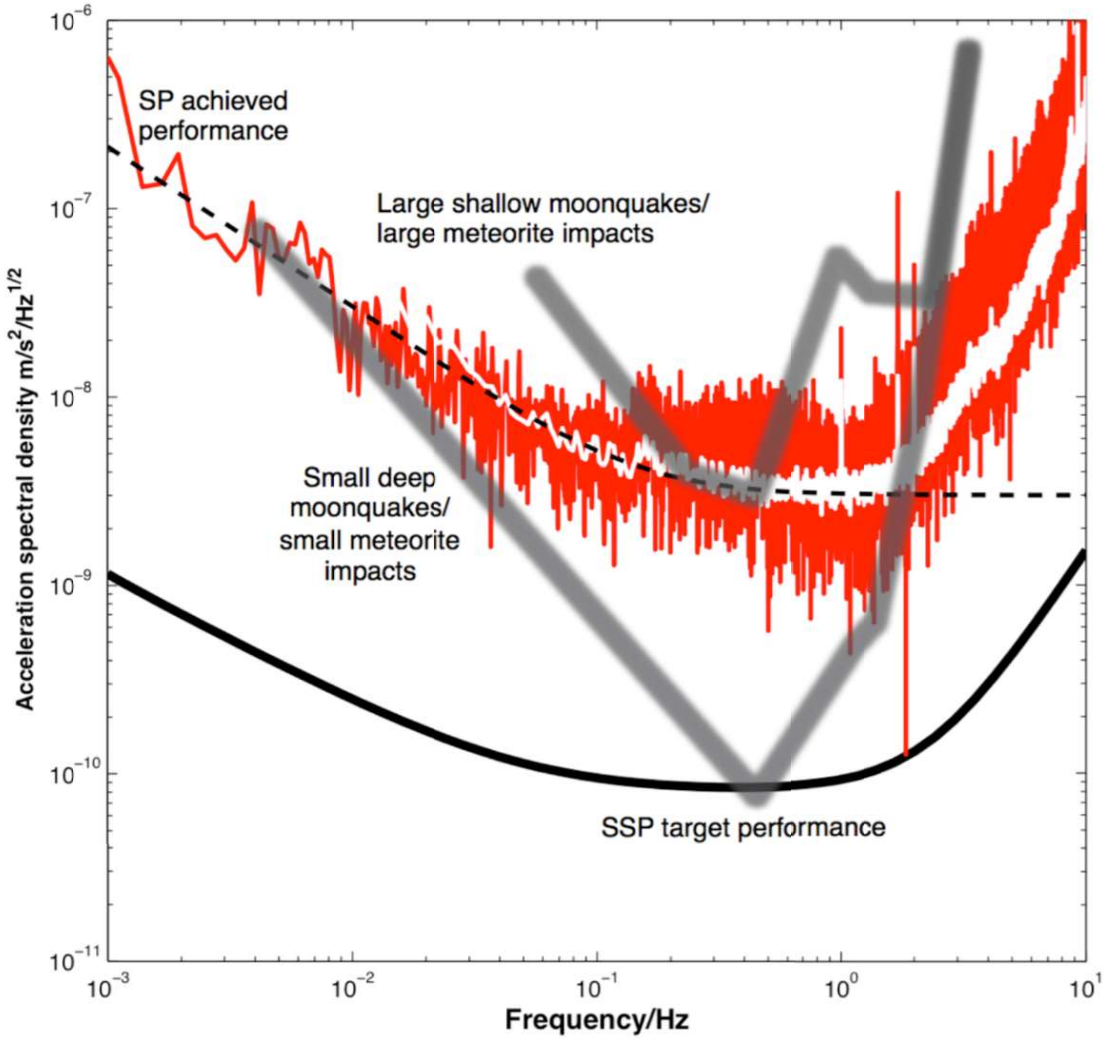
Lunar Seismograms
from Apollo



Meteoroid impact detected by Apollo 12's seismometer.

Over 13,000 events detected over 7+ years of operation.

Performance



The measured spectral amplitude of the lunar seismic signals measured by Apollo compared to the performance of the InSight SP microseismometer, and the SSP target performance.

Conclusion

MEMS seismometers are feasible for lunar surface deployment.

For further information …

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Poster Location: 645

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Alan Bean deploys the ALSEP at Apollo 12, NASA
MEMS Seismometer, © Imperial College London
Moon, Eric Kilby, 2015