

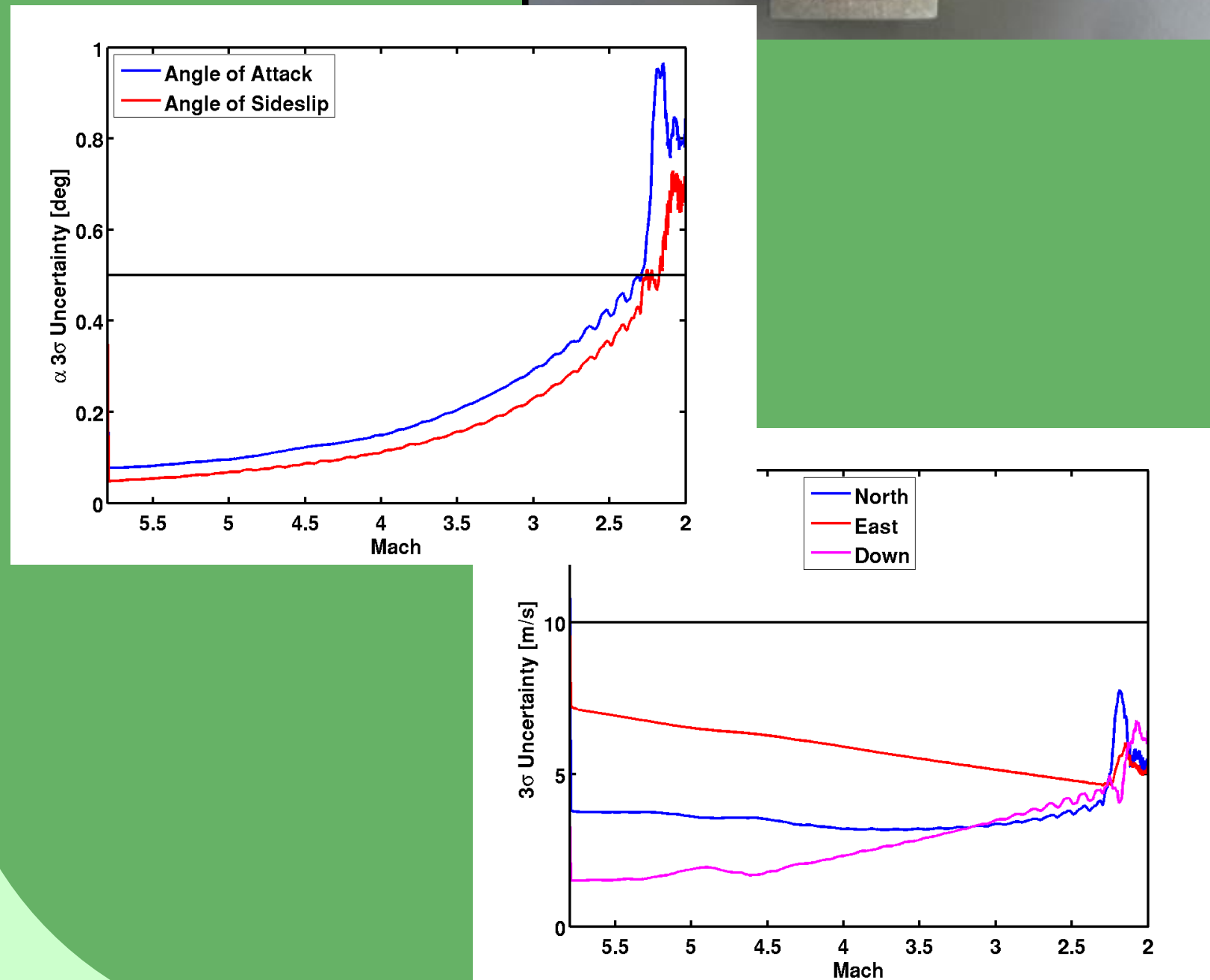
# Mars 2020 Entry, Descent, and Landing Instrumentation 2 (MEDLI2) Sensor Suite

Helen Hwang,<sup>1</sup> Henry Wright,<sup>2</sup> Chris Kuhl,<sup>2</sup> Mark Schoenenberger,<sup>2</sup> Todd White,<sup>1</sup> Chris Karlgaard,<sup>3</sup> Milad Mahzari,<sup>1</sup> Tomo Oishi,<sup>4</sup> Steve Pennington,<sup>5</sup> Nick Trombetta,<sup>2</sup> and Jose Santos<sup>6</sup>

<sup>1</sup>NASA Ames Research Center, <sup>2</sup>NASA Langley Research Center, <sup>3</sup>Analytical Mechanics Associates, Inc., <sup>4</sup>Jacobs Technology, Inc, <sup>5</sup>Science Systems and Applications, Inc., <sup>6</sup>Sierra Lobo, Inc.

## FOREBODY PRESSURE MEASUREMENTS

- Supersonic pressures
- Aerodynamic performance vs winds

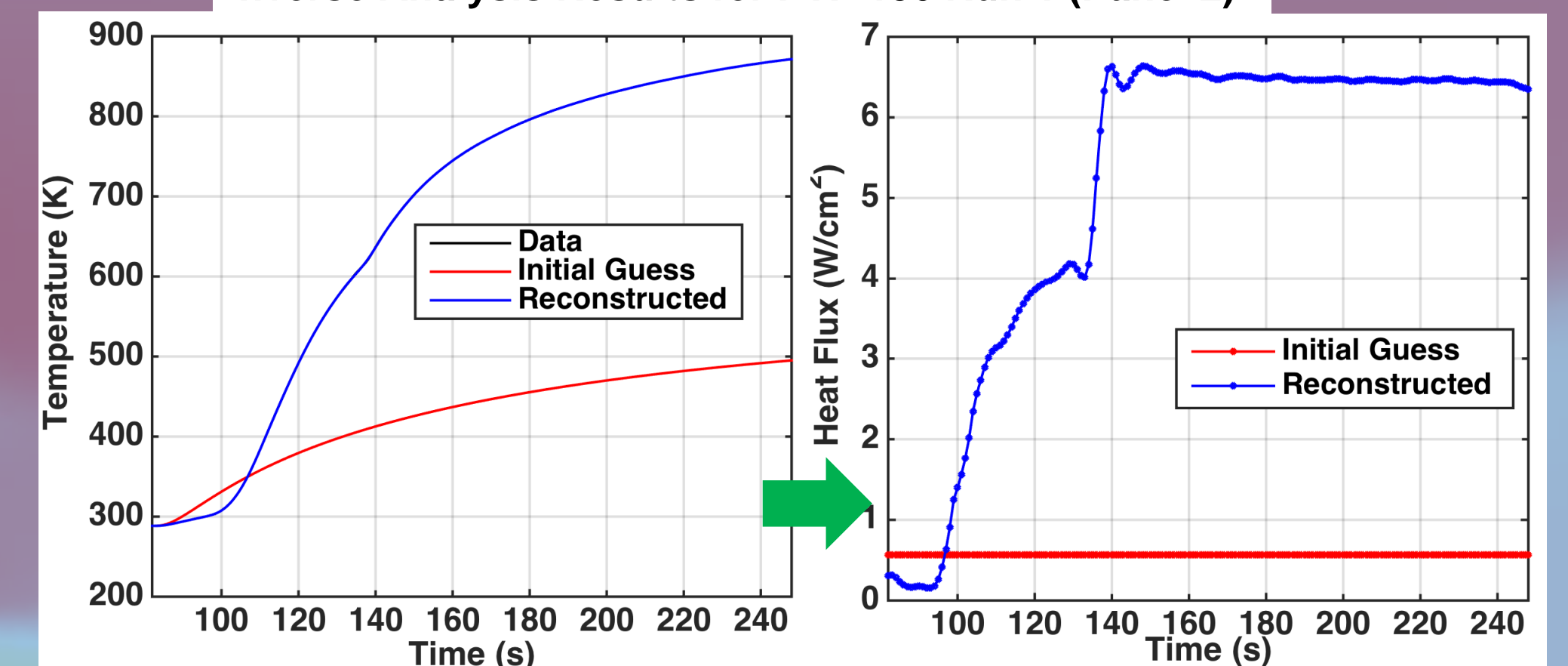


## AFTERBODY THERMAL MEASUREMENTS

- Radiative heating
- Near-surface temperature
- Direct heat fluxes

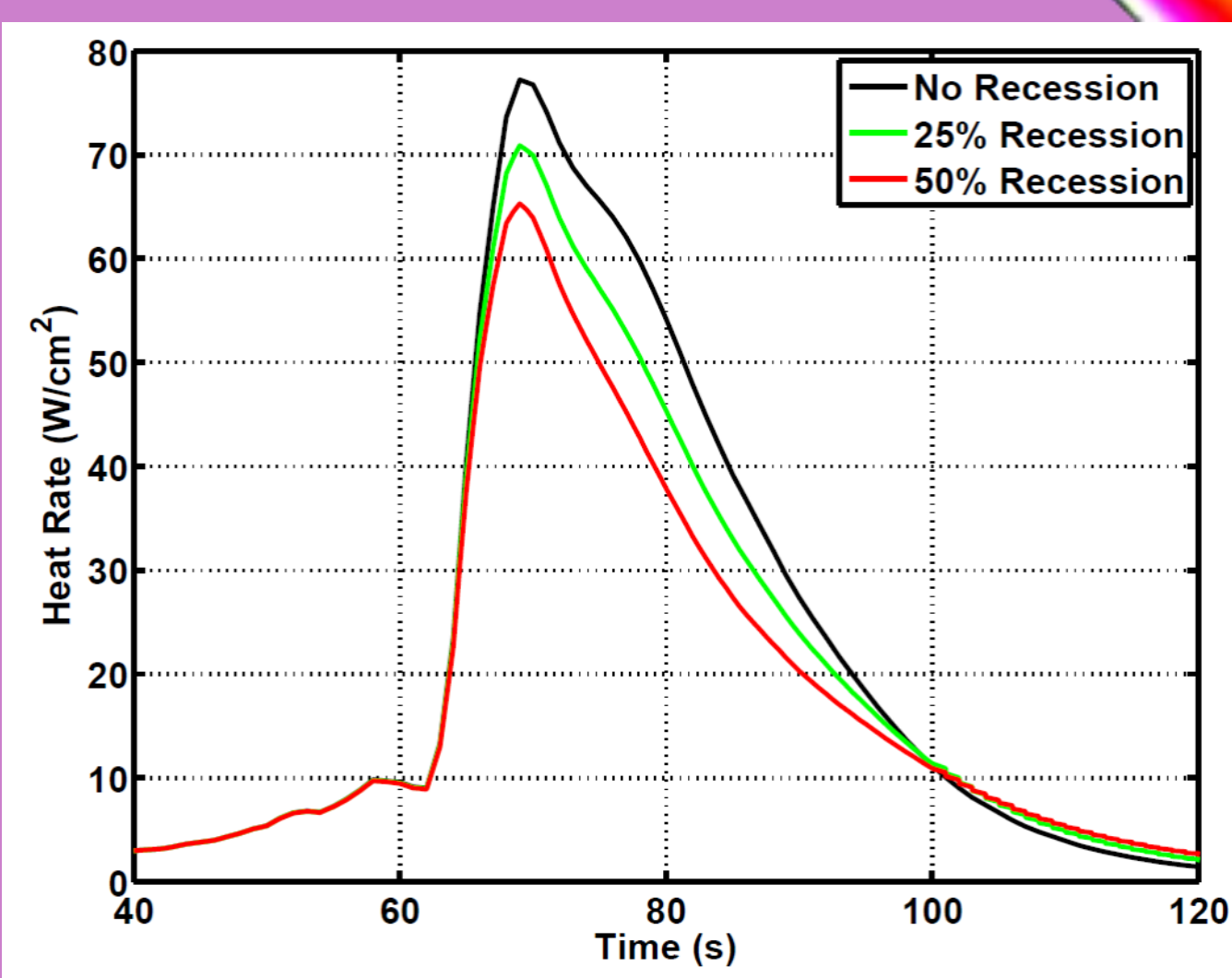
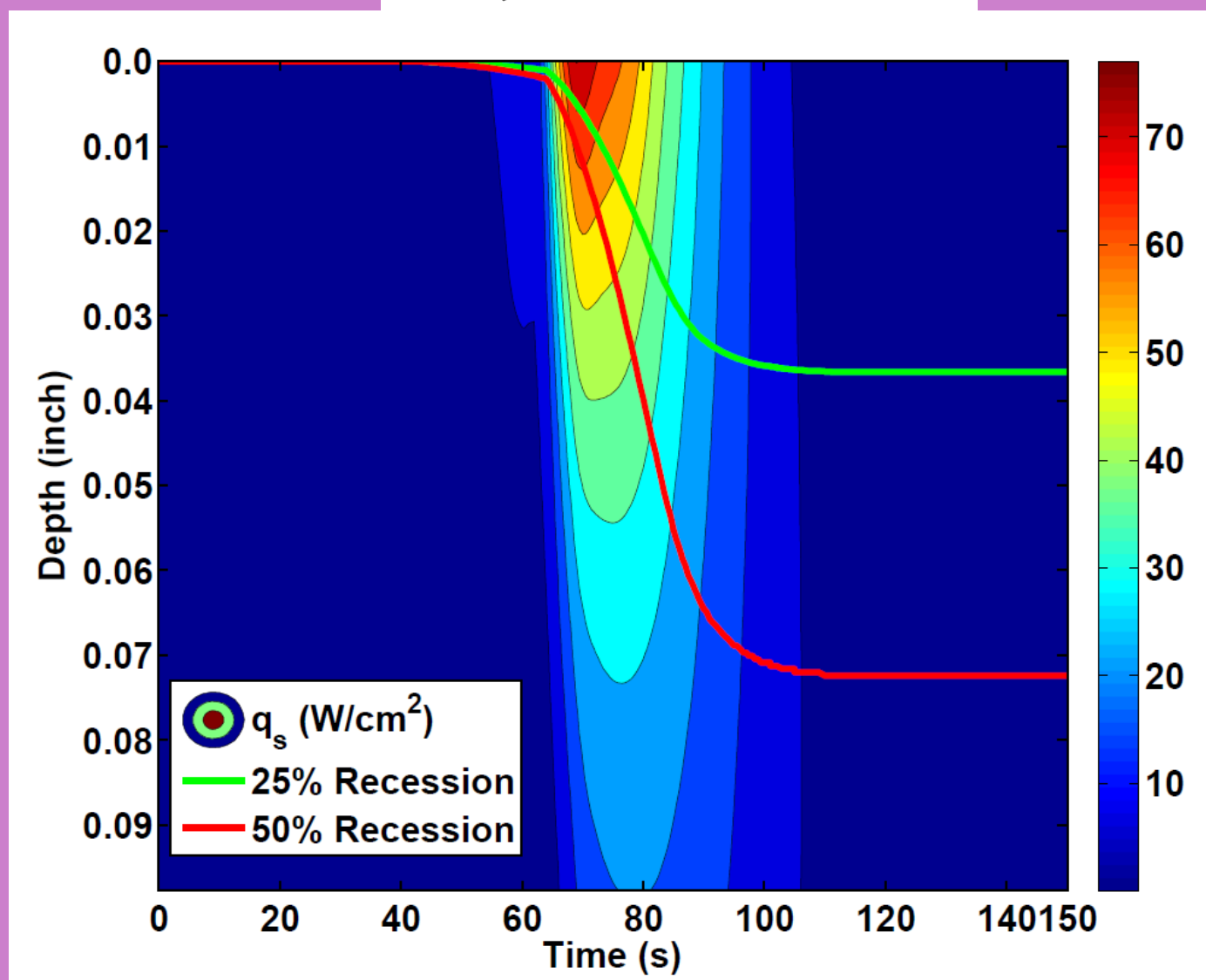
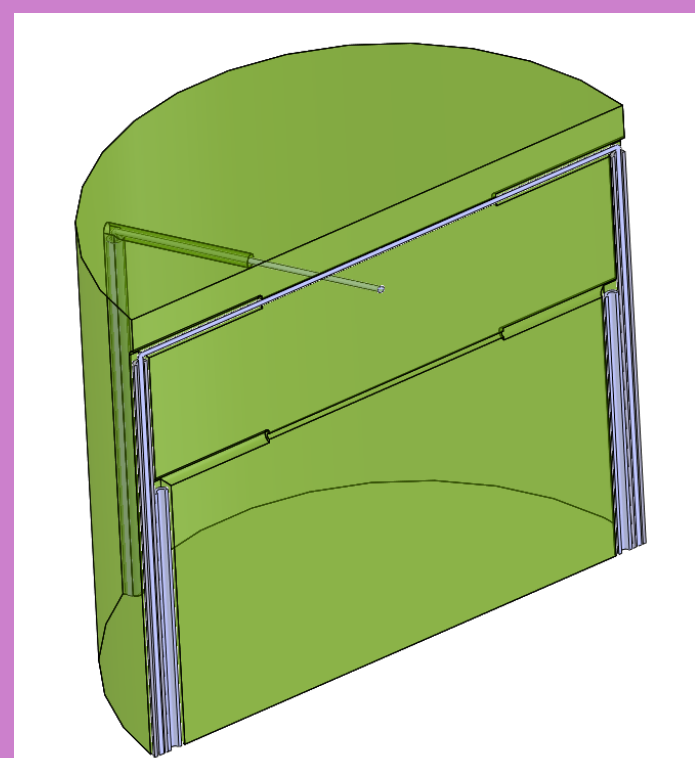


Inverse Analysis Results for PTF-150 Run 1 (Panel 2)

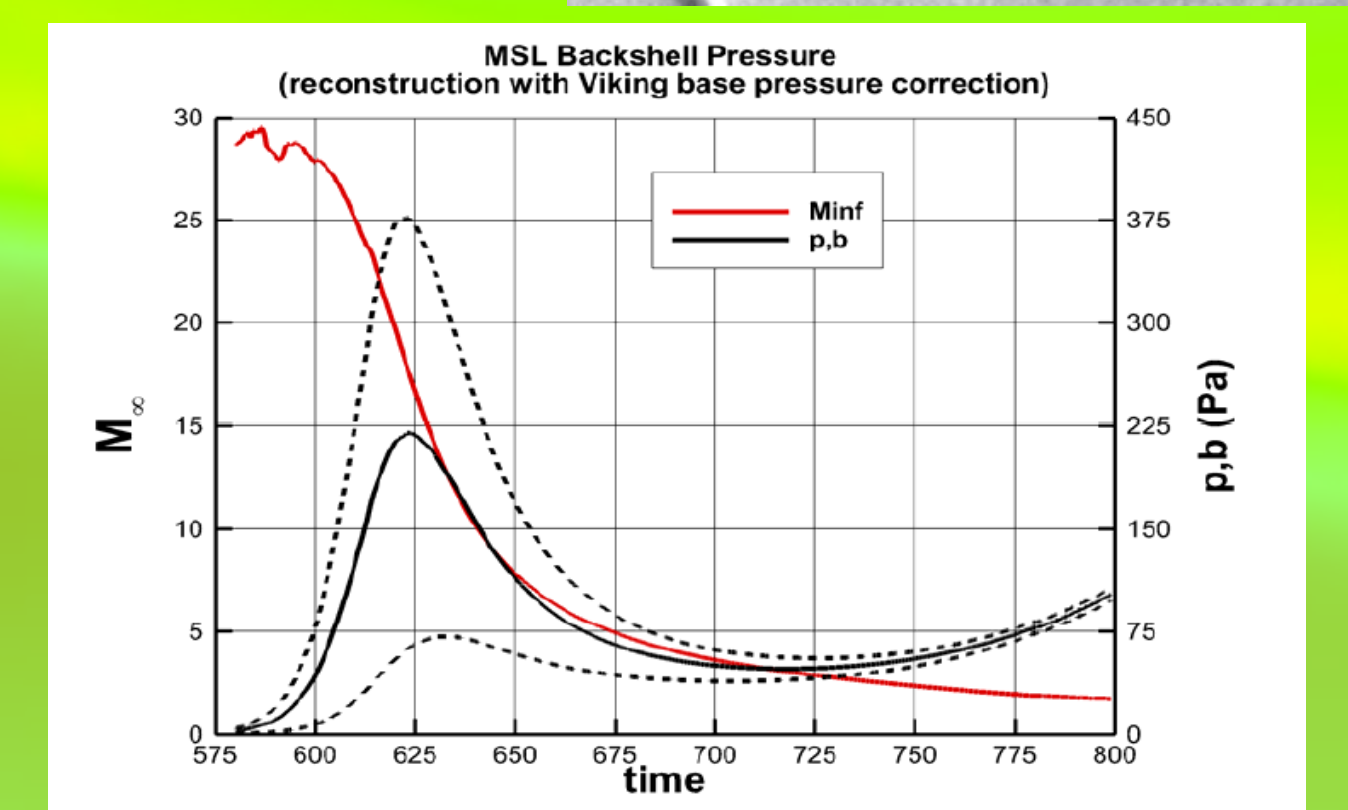
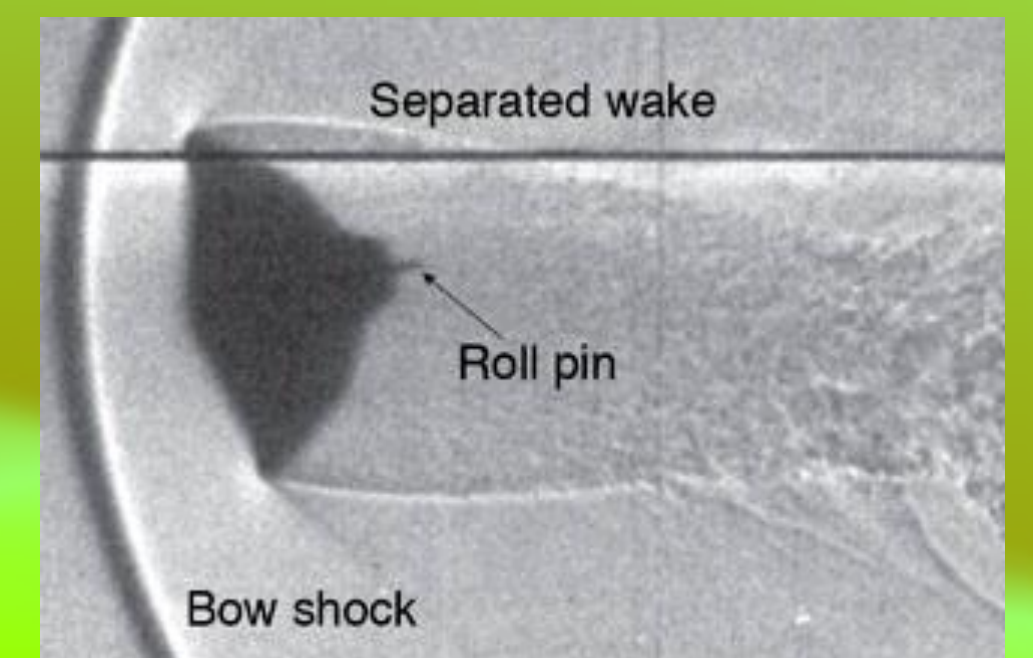


## FOREBODY THERMAL MEASUREMENTS

- Near-surface and in-depth temperature
- Wider coverage across heatshield to capture transition front

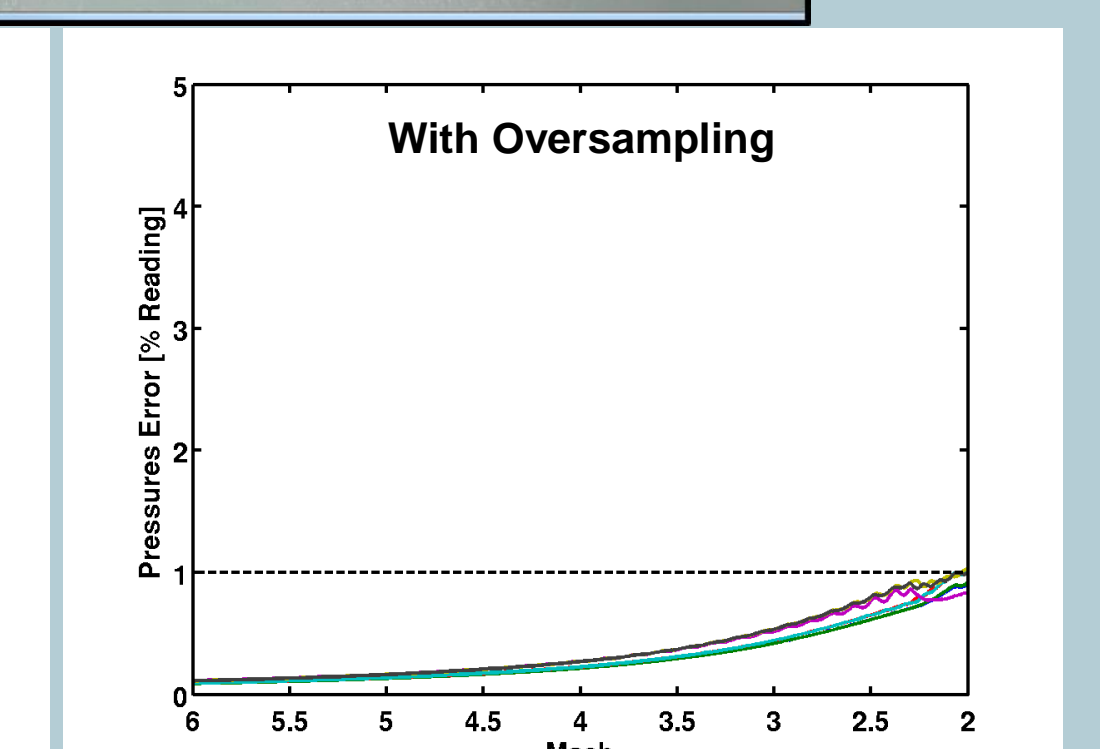
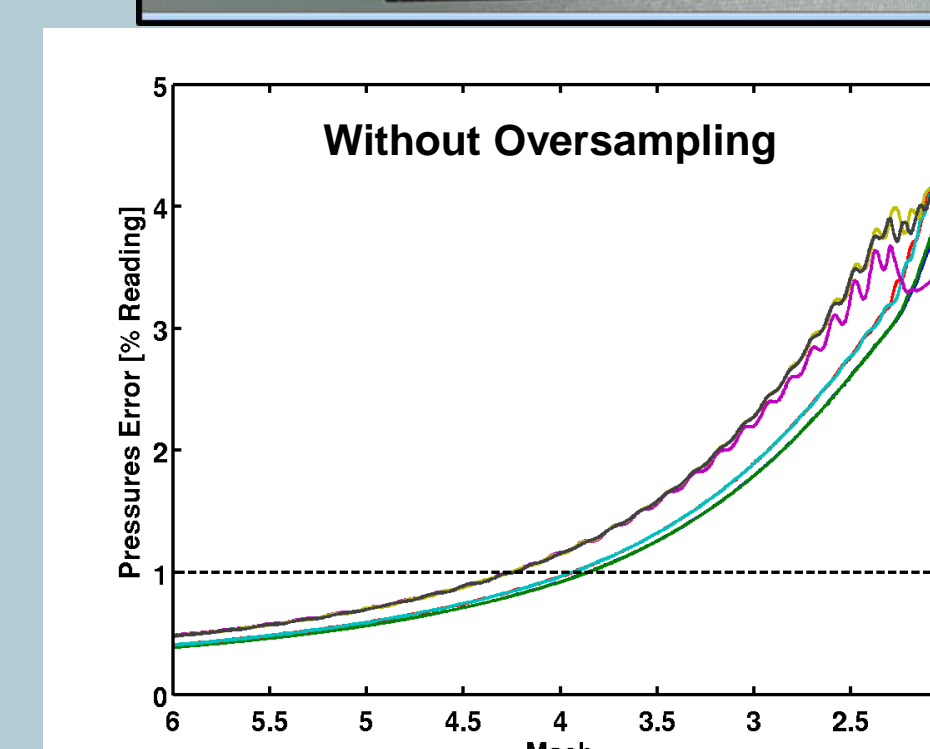
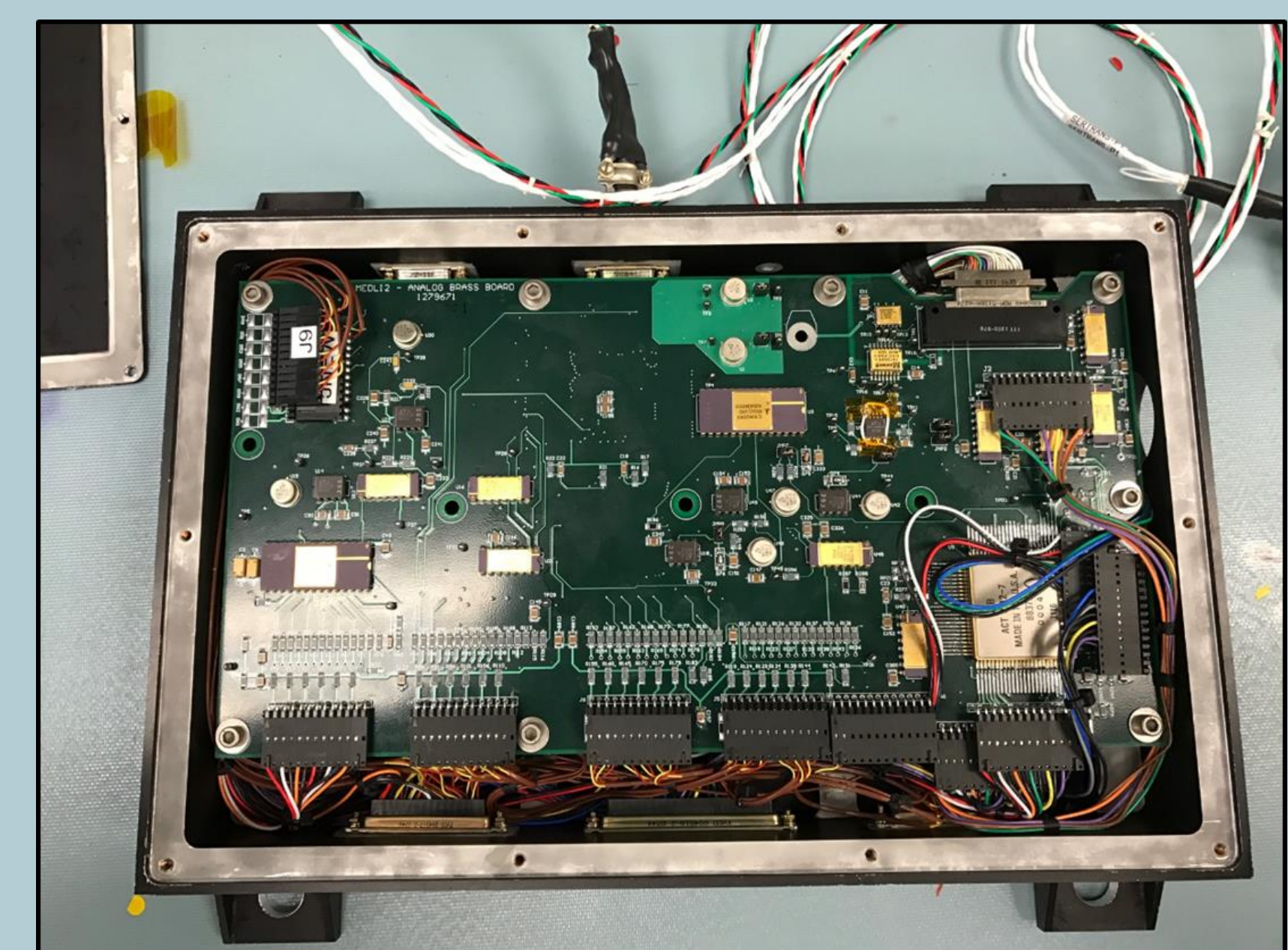


## AFTERBODY PRESSURE

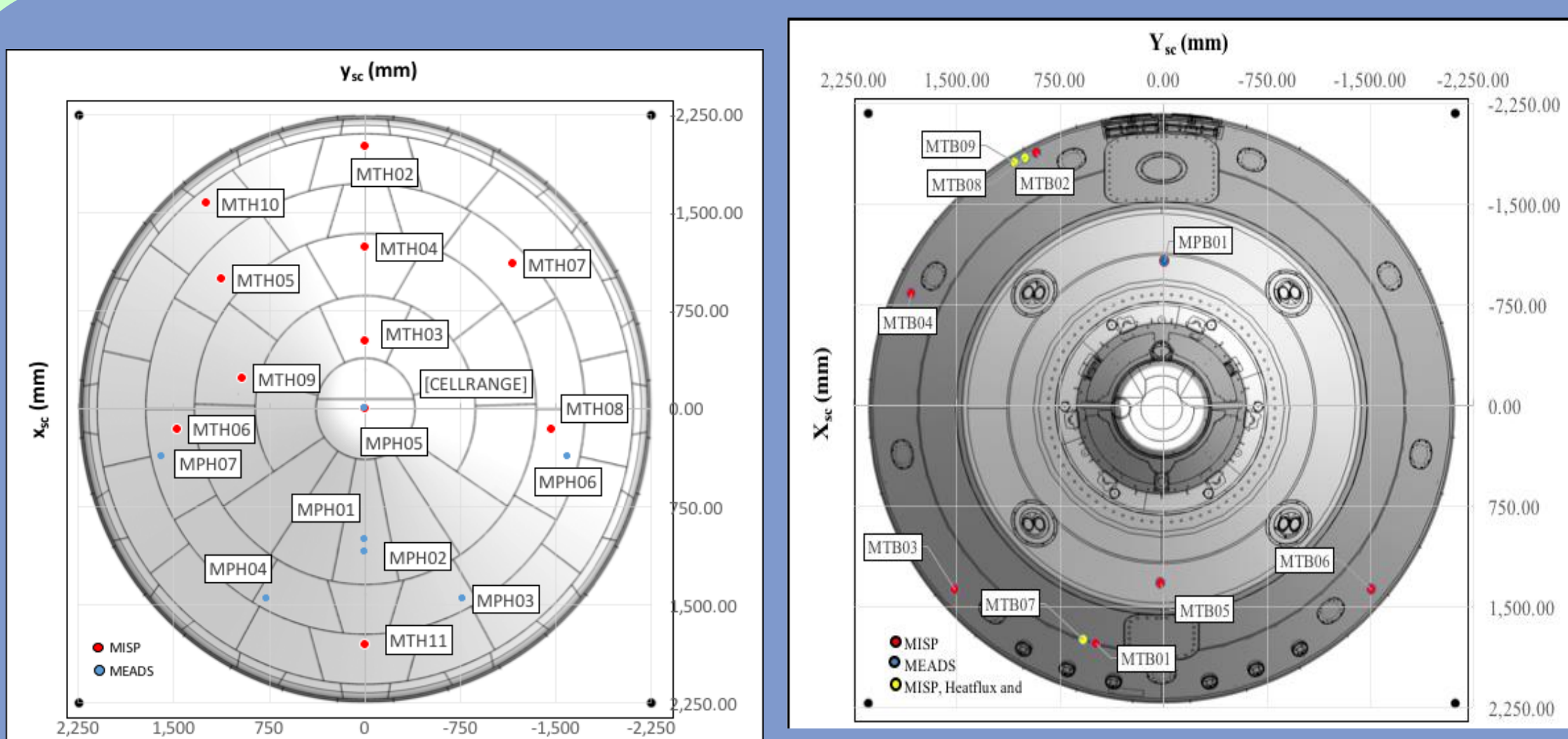


## SENSOR SUPPORT ELECTRONICS

- New oversampling method for pressure measurements



## SENSOR LAYOUT





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# Mars 2020 Entry, Descent, and Landing Instrumentation 2 (MEDLI2) Sensor Suite

Learn about the new sensors that will be flown on the Mars 2020 aeroshell (supersonic pressure transducers, direct heat flux gauges and radiometer), new techniques (oversampling), and plans for post-flight analysis

