

Planetary Instrument Research and Development at JPL

Ying Lin

Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109 USA

(email: ying.lin@jpl.nasa.gov)

To address high priority planetary exploration science goals over the coming decades, we need to develop a set of next generation planetary instruments that meet ambitious mission science requirements. Unlike instruments for Earth Science and Astrophysics, planetary instruments typically have more stringent constraints on mass, size, and power. In addition, surviving and operating in extreme environments (high radiation, extreme temperatures, and vibration and impact loads) are some of the challenges in planetary instrument developments.

NASA and JPL have several programs in place to support instrument development activities ranging from demonstrating proof-of-concept to developing brassboards and prototypes for testing in relevant environments. JPL's Planetary Instrument Development Office supports, facilitates, and oversees planetary instrument development proposals and tasks from TRL 1 to TRL 6.

This presentation will showcase many of the current planetary instrument development activities at JPL. We hope this will help stimulate discussions, identify instruments suitable for future probe and surface science mission opportunities, and foster international collaborations.