

Thursday, March 22, 2012

**POSTER SESSION II: INSIGHT: A PROPOSED MARTIAN GEOPHYSICS DISCOVERY MISSION
6:00 p.m. Town Center Exhibit Area**

Banerdt W. B. Smrekar S. Alkalai L. Hoffman T. Warwick R. Hurst K. Folkner W. Lognonné P. Spohn T. Asmar S. Banfield D. Boschi L. Christensen U. Dehant V. Giardini D. Goetz W. Golombek M. Grott M. Hudson T. Johnson C. Kargl G. Kobayashi N. Maki J. Mimoun D. Mocquet A. Morgan P. Panning M. Pike W. T. Tromp J. van Zoest T. Weber R. Wieczorek M. InSight Team

[*InSight: An Integrated Exploration of the Interior of Mars*](#) [#2838]

InSight is a proposed Discovery mission to Mars that will illuminate the fundamental processes of terrestrial planet formation and evolution by performing the first comprehensive surface-based geophysical investigation of Mars.

Van Hoolst T. Dehant V. Folkner W. Asmar S. Rivoldini A. Banerdt W. B.

[*Interior of Mars from Geodesy*](#) [#2157]

Within the InSight mission, the radioscience experiment RISE (Rotation and Interior Structure Experiment) determines Mars' length-of-day variations, precession, and nutation and constrains the interior structure and atmosphere.

Folkner W. M. Asmar S. W. Dehant V. Warwick R. W.

[*The Rotation and Interior Structure Experiment \(RISE\) for the InSight Mission to Mars*](#) [#1721]

The goals of the Rotation and Interior Structure Experiment (RISE) are to deduce the size and density of the martian core through estimation of the precession and nutation of the spin axis.

Spohn T. Grott M. Knollenberg J. van Zoest T. Kargl G. Smrekar S. E. Banerdt W. B.

Hudson T. L. HP³ Instrument Team

[*INSIGHT: Measuring the Martian Heat Flow Using the Heat Flow and Physical Properties Package \(HP³\)*](#) [#1445]

HP³ is being developed for an application on the InSight mission to Mars, and the design is currently changed to increase the penetration performance of the instrument. If selected it will conduct the first heat flow measurement on Mars.

Grott M. Spohn T. Smrekar S. E. Banerdt W. B. Hudson T. L. Morgan P. v. Zoest T.

Kargl G. Wieczorek M. A.

[*InSight: Constraining the Martian Heat Flow from a Single Measurement*](#) [#1382]

If selected as a Discovery mission, InSight will land a geophysical station on Mars. We discuss what can be learned from a single heat flow measurement conducted at the candidate landing site in the Elysium region.

Panning M. P. Mocquet A. Beucler E. Banerdt W. B. Lognonné P. Boschi L. Johnson C.

Weber R. C.

[*InSight: Using Earth Data to Demonstrate Inversion Techniques for Mars' Interior*](#) [#1515]

InSight is a proposed Discovery mission to deliver a seismometer package to the martian surface. Earth data from a single station is used to demonstrate the single-station techniques that will be used to constrain the interior structure of Mars.

Mimoun D. Lognonné P. Banerdt W. B. Hurst K. Deraucourt S. Gagnepain-Beyneix J. Pike T. Calcutt S. Bierwirth M. Roll R. Zweifel P. Mance D. Robert O. Nébut T. Tillier S. Laudet Ph. Kerjean L. Perez R. Giardini D. Christenssen U. Garcia R.

[The InSight SEIS Experiment](#) [#1493]

This abstract presents the design of the SEIS instrument, which is the main instrument of the InSight mission; the InSight mission has been pre-selected in the frame of the 2012 Discovery mission selection.

Robert O. Gagnepain-Beyneix J. Nebut T. Tillier S. Deraucourt S. Hurst K. Gabsi T. Lognonne P. Banerdt W. B. Mimoun D. Bierwirth M. Calcutt S. Christenssen U. Giardini D. Kerjean L. Laudet Ph. Mance D. Perez R. Pike T. Roll R. Zweifel P. SEIS Team

[The InSight Very Broad Band \(VBB\) Seismometer Payload](#) [#2025]

This paper exposes the last developments made on the martian VBB (very broad band seismometer) sensor made by an international consortium under the management of CNES, currently part of the core payload for the martian project InSight from JPL.