The Seismic Experiment for Interior Structure (SEIS) Experiment Data Distribution

Constanza Pardo (1), Renee Weber (2), Philippe Lognonné (1), William T. Pike (3), Domenico Giardini (4), Ulrich Christensen (5), W. Bruce Banerdt (6), Don Banfield (7), Jean-Luc Berenger (8), Tammy Bravo (9), Vincent Conejero (1), Mélanie Drilleau (1), Taoufik Gabsi (1), Laure Luno (10), Philippe Labrot (1), Susan Slavney (11), Anne Sauron-Sornette (4), and Eléonore Stutzmann (1)

(1) Institut de Physique du Globe de Paris, Sorbonne Paris Cité, Université Paris Diderot, Paris, France, (2) NASA Marshall Space Flight Center, USA, (3) Imperial College, London, UK, (4) ETH, Zürich, Switzerland, (5) Max Planck Institute for Solar System Research, Göttingen, Germany, (6) Jet Propulsion Laboratory, California Institute of Technology, USA, (7) Cornell University, USA, (8) Géoazur Education (University Côte d'Azur), France, (9) Incorporated Research Institutions for Seismology (IRIS), USA, (10) CNES, France, (11) Washington University, St. Louis, Missouri, USA

Like all NASA missions, InSight's data will be archived at the Planetary Data System (PDS), a long-term digital data archive. This includes data from SEIS, the first seismometer deployed on the Martian ground (40 years after the Viking deck-mounted instruments), as well as those of the Auxiliary Payload Sensors Suite (APSS). For SEIS, the distributed data are those of the very broad-band (VBB), short-period (SP) sensors, SEIS electronics, leveling system, and selected lander telemetry channels.

SEIS and APSS data are received from the spacecraft in raw telemetry packets and converted to both SEED format files and ASCII tables (GeoCSV) for analysis and archiving. APSS data in SEED format will permit straightforward data comparison. Both data sets will then be delivered to the Mars SEIS Data Service (MSDS) at IPGP Data Center. IPGP maintains the SEIS data portal, which will become open-access a week prior to the first public data distribution. MSDS will also deliver SEIS data to PDS for archiving and to IRIS as a second data portal.

IRIS, an InSight educational partner, has the goal of engaging students with seismic data from Mars. The IRIS Data Management Center and MSDS will make data from the seismometer available to students, the international seismological community, and the public. Data for schools will be distributed via several international "seismo@school" projects.

The initial release of raw data archive products to the PDS, covering the period from landing to the start of the science monitoring phase, will occur within 3 months of the start of the science monitoring phase (anticipated April 2019), with calibrated products and SPICE kernels following a month later. After these initial releases, the calibrated and SPICE data will be released by the PDS every 3 months, beginning in July 2019. Public release of "uncertified" seismic velocity data via IRIS will start about 7 months after the start of the science monitoring phase and will be made every 4 weeks.