Paper ID: 53058
oral

IAF SPACE EXPLORATION SYMPOSIUM (A3)
Mars Exploration – missions current and future (3A)

Author: Dr. Ramon P. De Paula
National Aeronautics and Space Administration (NASA), United States, ramon.p.depaula@nasa.gov

Mr. Tom Hoffman
Jet Propulsion Laboratory - California Institute of Technology, United States, tom.l.hoffman@jpl.nasa.gov
Dr. William Bruce Banerdt
National Aeronautics and Space Administration (NASA), Jet Propulsion Laboratory, United States, bruce.banerdt@jpl.nasa.gov

STATUS OF NASA'S INSIGHT MARS MISSION

INSIGHT: [INTERIOR EXPLORATION USING SEISMIC INVESTIGATIONS, GEODESY AND HEAT TRANSPORT]

Abstract

This paper will provide a summary and status of NASA's InSight Mission (Interior Exploration using Seismic Investigations, Geodesy and Heat Transport). The presentation will discuss the spacecraft landing on Mars, the instrument deployment phase, and the latest status of its Science Operations.

InSight is a lander mission with strong international partnership. NASA and its international partners developed a set of complex instruments for geophysical investigation for deployment on the surface of Mars. The team overcame a serious of technical challenges during the development phase, launched the mission on May 05, 2018, successfully landed on Mars on November 26, 2018, completed the instrument surface deployment on February 25, 2019, and immediately started the Science Operations that is planned to continue until Dec 2020.

InSight's science is very unique, it is an investigation of the terrestrial planets that will address fundamental issues of planet formation and evolution with a study of the deep interior of Mars. The InSight mission will seek to understand the evolutionary formation of rocky planets, including Earth, by investigating the crust and core of Mars. InSight will also investigate the dynamics of any Martian tectonic activity and meteorite impacts and compare this with like phenomena on Earth.

The paper will present a summary of the current status of the InSight mission, the Entry, Descent and Landing (EDL), instrument deployment and summary of scientific results the plans for the next two years of science.