

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

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UPDATE AND OVERVIEW OF NASA'S INSIGHT MARS MISSION (2018 LAUNCH)
INSIGHT: [INTERIOR EXPLORATION USING SEISMIC INVESTIGATIONS, GEODESY AND HEAT
TRANSPORT]

Abstract

This paper will give an update of the current status of NASA's next mission to Mars, the Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) now planned for launching in 2018. InSight is a lander mission that was planned for launch in March 2016 with strong international partnership. However, the 2016 launch was cancelled because its prime science instrument, the Seismic Experiment for Interior Structure (SEIS) developed by CNES, had a vacuum leak that could not be fixed in time for launch.

This prompted NASA in December 2015 to suspend the March 2016 launch. Given the continued importance and compelling nature of the mission science, NASA and CNES have each established plans to overcome the technical challenges of the SEIS instrument. With these new plans the InSight mission now has a new launch period, beginning 05 May 2018, with landing on Mars scheduled for 26 November 2018. The mission has made considerable progress towards the 2018 launch.

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 current plans for the 2018 launch, and the progress made since the launch cancellation in December 2015.