

SPACE EXPLORATION SYMPOSIUM (A3)  
Moon Exploration – Part 2 (2B)

Author: Prof. Tatsuaki Hashimoto

Japan Aerospace Exploration Agency (JAXA), Japan, hashimoto.tatsuaki@jaxa.jp

Prof. Satoshi Tanaka

Japan Aerospace Exploration Agency (JAXA), Japan, tanaka@planeta.sci.isas.jaxa.jp

Mr. Takeshi Hoshino

Japan Aerospace Exploration Agency (JAXA), Japan, hoshino.takeshi@jaxa.jp

Dr. Masatsugu Otsuki

Japan Aerospace Exploration Agency (JAXA), Japan, otsuki.masatsugu@jaxa.jp

Dr. Hitoshi Morimoto

Japan Aerospace Exploration Agency (JAXA), Japan, morimoto.hitoshi@jaxa.jp

Dr. Hisashi Otake

Japan Aerospace Exploration Agency (JAXA), Japan, ootake.hisashi@jaxa.jp

JAPANESE MOON LANDER SELENE-2 - PRESENT STATUS IN 2010 -

**Abstract**

Japan Aerospace Exploration Agency (JAXA) considers a moon lander SELENE-2 as one of SELENE follow-on missions. Mission definition of SELENE-2 has completed in 2007 and concept design of the spacecraft is now undergoing. In this presentation, missions of SELENE-2 are shown together with the present design status of the spacecraft. JAXA launched Kaguya (SELENE) moon orbiter in September, 2007 and the spacecraft was successfully put into moon orbit in October. It observed moon surface or gravity field with 13 instruments and a couple of small satellites till the hard landing in June, 2009. As the next step of moon exploration, a lunar lander SELENE-2 is considered. It lands on the moon surface and performs in-situ scientific observation, environment investigation, and research for future lunar utilization including human activity. At the same time, it demonstrates some key technologies for lunar and planetary exploration such as precise and safe landing, surface mobility and overnight staying. The lander carries laser altimeters, image sensors, landing radars for precise and safe landing. Landing legs and precisely-controlled propulsion system are also developed. The rover is designed so as to travel in wide area and observe featured terrain with scientific instruments. Some instruments require long term observation on the moon surface. Therefore, survival technology over 15-days-long night must be essential.