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Present status of next lunar landing mission SELENE-2

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SELENE-II lunar landing mission is one of the series of the Japanese lunar exploration program of the next two decades. A pre-project team has established in 2007(Phase-A) and the launch is scheduled in the mid-2010s. We report our up-dated status of the science aspects.

The main progress, so far, is significant advance of technological development of the candidate instruments. Especially, we obtained a clear vision of the thermal design of each instrument under severe temperature condition on the Moon. At present, six instruments out of 12 candidates were selected as "prior instruments" judging from both technical readiness and science significance. In addition, several instruments for future utilization and for outreach use have been also developed progressively.

Making an excellent science scenario (objectives) under restricted condition is also an important issue. In order to do this, the science review board by the ISAS space science committee members was established in September 2009, and the review board has been almost finished and highly valued to promote the lunar science.

The science achievement is obviously dependent on the landing site. The landing site selection has been aggressively discussed by the "Landing Site Selection Working Team", which was established in May 2010. The first draft of the result will be reported by the end of March 2011.

As of now, SELENE-II mission team is elaborating a "realistic" proposal from the viewpoints of both technological readiness and severe financial condition. We also introduce our strategy and perspectives to overcome these difficult problems to be solved.

Keywords: Moon, landing mission, lunar exploration, SELENE-2, science instruments