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The Strategic Plan for the Integrated Sciences and the Development Status of Japanese Lunar Explorer; Selene and Lunar-A

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A new era of Japanese lunar exploration is coming. In this paper, we will present the strategic plan for the integrated sciences of Japanese lunar exploration projects; SELENE and Lunar-A. We will also report the development status of their flight-models. SELENE is a lunar explorer which will execute the global mapping of the moon, make technical demonstration, and acquire lunar data for the future exploration. SELENE has 15 instruments to observe chemical elements, mineralogy, surface structure, surface environment, and gravity field and to obtain images of the Earth and the moon for popularization. They will provide not only various knowledge of phenomena on the moon to elucidate its origin and evolution but also information to comprehend the interplanetary space of solar system. SELENE is now at the stage of the satellite integration test for mission instruments, and is scheduled to be launched in the summer in 2007. Lunar-A is a lunar probe which provides two penetrators on the lunar surface to elucidate the structure and composition of the lunar interior with seismological and heat-flow data. They will resolve the physical parameters of lunar core. At present, the final confirmation for the penetrator system is ongoing.