Japan Geoscience Union Meeting 2010
(May 23-28 2010 at Makuhari, Chiba, Japan)

PPS007-P02 Room: Convention Hall Time: May 26 17:30-18:30

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We propose rover mission as a future Japanese Mars exploration. A goal of the mission is to measure mineral and elemental compositions, as well as volatile elements, of martian volcanic rocks in situ. We aim to reveal compositional variation around landing site, and possibly differentiation trend and primary melt composition of source magma. A candidate landing site is an ejecta blanket of fresh impact crater which diameter is about 10 km on ancient lava flows. Impact cratering excavates radially subsurface materials at a depth of about 1 km and enables exploration of series of outcrops within short horizontal range. A set of instruments have been proposed for the rover mission; LCD filters for stereo camera, macro spectral camera, LIBS, XRDF, QMS, and magnetometer.

Keywords: Mars exploration, Rover