

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

Author: Dr. Su-Kyum Kim

Korea Aerospace Research Institute (KARI), Korea, Republic of, skim@kari.re.kr

Dr. Myoung-Jong Yu

Korea Aerospace Research Institute (KARI), Korea, Republic of, mjyu@kari.re.kr

Dr. Sang-Ryool Lee

Korea Aerospace Research Institute (KARI), Korea, Republic of, leesr@kari.re.kr

PRELIMINARY DESIGN OF MOON LANDER PROPULSION SYSTEM FOR GROUND TEST

**Abstract**

After the success of Apollo project, lunar exploration had been almost stopped for a long years. But in recent times, the lunar exploration started to become one of the most interesting topics among many countries. Now, many countries started lunar exploration programs to contain lunar orbiter and moon lander, and some countries already succeeded to launch their own lunar orbiter. In 2009, Korea also announced a lunar exploration plan to send an orbiter to the moon by the year 2021 and to send an unmanned lander to the moon by the year 2025. For successful progress of this project, Korea Aerospace Research Institute (KARI) started the preliminary research about the propulsion system for lunar orbiter and moon lander from this year. The final goal of this study is to develop a prototype propulsion system for lunar exploration and to perform ground landing test using this propulsion system. For this purpose, preliminary design of propulsion system and development of 200 N class hydrazine monopropellant thruster have been started. In this paper, the design concept of the moon lander propulsion system will be introduced and the design results for propulsion system and thruster will be presented.