

SPACE EXPLORATION SYMPOSIUM (A3)
Moon Exploration – Part 1 (2A)

Author: Prof. Young-Jun Choi

Korea Astronomy and Space Science Institute/University of Science and Technology, Korea, Republic of

Prof. Sungsoo S. Kim

Korea, Republic of

Dr. Kyungin Kang

Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of

Prof. Ian Garrick-Bethell

United States

Prof. Yuriy Shkuratov

Ukraine

WIDE-ANGLE POLARIMETRIC CAMERA FOR KOREA PATHFINDER LUNAR ORBITER

Abstract

Polarimetric images contain valuable information on the lunar surface such as grain size and porosity of the regolith, from which one can estimate the space weathering environment on the lunar surface. Surprisingly, polarimetric observation has never been conducted from the lunar orbit before. A Wide-Angle Polarimetric Camera (PolCam) has been recently selected as one of three Korean science instruments onboard the Korea Pathfinder Lunar Orbiter (KPLLO), which is aimed to be launched in 2018/2019 as the first Korean lunar mission. PolCam will obtain 80 m-resolution polarimetric images of the whole lunar surface between -70 deg. and +70 deg. latitudes at 320, 430 and 750 nm bands for phase angles up to 115 degrees. We discuss operational concept and scientific objectives of the PolCam as well.