

The use of the HARP satellite for the measurement of aerosol and cloud particles

J. VANDERLEI MARTINS^{1,2},
ROBERTO FERNANDEZ-BORDA² AND LORRAINE REMER²

¹Department of Physics, University of Maryland Baltimore County

²JCET-University of Maryland Baltimore County, USA.
remer@umbc.edu

The HARP (Hyperangular Rainbow Polarimeter) CubeSat satellite is a full feature multi-angle imaging polarimeter that will be launched in 2016 at the International Space Station orbit for the measurement of aerosol and cloud particles. HARP will HARP accurate pointing capabilities, four wavelengths (440, 550, 670 and 870nm), hyperangular capability with up to 60 along track viewing angles at 670nm, and up to 20 angles for all other wavelengths. The HARP imaging polarimeter will simultaneously measure the three Stokes parameters (I, Q, and U) over a has wide field of view with 94deg cross track and +/- 58 degs along track. The combination of these capabilities will allow for the detailed measurement of water and ice cloud particles in terms of their polarization and angular properties. HARP's polarization capabilities will also allow for better discrimination for aerosols in the proximity of the clouds. Airborne results from the PACS airborne hyperangular polarimeter (a precursor to the HARP sensor) will be presented as a demonstration of the HARP capabilities.