

# POLARIMETRIC MODELING AND CALIBRATION OF THE MULTI-SPECTRAL IMAGER POLARIMETER (MSIP) FOR AEROSOL-UA SPACE MISSION

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We develop the polarimetric model and ground-based calibration approach for the multi-spectral imager-polarimeter (MSIP), which is one of the two main instruments for the Aerosol-UA space mission [1]. MSIP is a polarimeter that serves to retrieve the optical and physical characteristics of the aerosol, as well as the cloud parameters with wide field of view. MSIP will perform measurements of three Stokes parameters I, U, Q of the atmosphere and Earth-scattered solar radiation from a Sun-synchronous orbit in three spectral channels with polarization (410, 555 and 865 nm) and two channels without polarization that splitted to eight wavebands (410, 443, 470, 490, 555, 670, 865, and 910 nm). To describe polarization systems, we use self-consistent Stokes-Mueller formalism.

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