IAF EARTH OBSERVATION SYMPOSIUM (B1)
Interactive Presentations - IAF EARTH OBSERVATION SYMPOSIUM (IP)

Author: Ms. Meera AlShamsi
Mohammed Bin Rashid Space Centre (MBRSC), United Arab Emirates, Meera.AlShamsi@mbrsc.ae

DMSAT-1 ATMOSPHERIC ENVIRONMENTAL APPLICATIONS FOR THE UNITED ARAB EMIRATES

Abstract

DMSAT-1 (Dubai Municipality Satellite) is the first environmental microsatellite for the United Arab Emirates (UAE) that was launched on March 22, 2021. DMSAT-1 is a collaboration between the Mohammed Bin Rashid Space Centre (MBRSC), Dubai Municipality and the Space Flight Laboratory (SFL). It is a high-performance microsatellite designed to perform multispectral observations in the visible and near-infrared bands for aerosol and greenhouse gases monitoring. DMSAT-1 is equipped with three instruments that will provide significant data to be utilized for climate change and air pollution studies. The primary instrument on DMSAT-1 is a multispectral, dual polarization imager that images in Blue, Red and Near-Infrared bands at two polarization states (0 and 90 degree linear) to detect the aerosol (PM2.5 and PM10) content in the atmosphere. The two secondary instruments are spectrometers covering wavelengths from 1000nm to 2000nm to detect greenhouse gases (CO2, CH4, H2O) content in the atmosphere. The main purpose of this study is to introduce the DMSAT-1 mission and its environmental applications.