

Pre-Launch and On-Orbit Testing of SMAC on-board GFDM satellite

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The high-resolution multimode imaging satellite [Gao Fen Duo Mo (GFDM)] was launched by China National Space Administration (CNSA) in July 2020. GFDM was equipped with China's first atmospheric synchronization correction instrument (SMAC) with polarization detection function, enabling high-resolution images of Chinese civilian satellites to have atmospheric synchronization correction capability for the first time. Due to the fact that radiometric and polarimetric accuracy of SMAC is the basic guarantee for atmospheric correction of high-resolution images^[1,2], the project team carried out a series of pre-launch and on-orbit calibration and characterization activities, including both radiometry and polarimetry^[3,4].

In this talk, we provide an overview of SMAC instrument and approaches applied to establish, maintain and verify SMAC's calibration traceability and accuracy. Moreover, we demonstrate the data quality and the application effect of SMAC.

References

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