



Peng Zhang

Radiation Budget Measurements from Current and Future FY-3 Satellites

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Fengyun 3 series (FY-3 as brief hereafter) is the second generation of Chinese meteorological polar orbiting satellite. There are 4 satellites have been launched successfully since 2008. The first two of them, FY-3A (2008) and FY-3B (2010) are research and development satellites. As a successor, FY-3C (2013) and FY-3D (2017) satellites are operational satellites. Multiple types of advanced instruments have been mounted on the platform of FY-3 satellites, including multiband optical imaging, atmospheric sounding, microwave imaging, hyperspectral trace gas detecting, and full-band radiation budget measuring. There are two instruments deployed to measure radiation budget at top of the atmosphere, i.e. Earth Radiation Monitor (ERM) and Solar Irritation Monitor (SIM). This talk will summarize the performance of ERM and SIM. The long term results since 2008 are also given in this presentation. The future program with the improved instruments for radiation budget measuring has been introduced in the last part.

SHORT BIO:

Peng Zhang is deputy director-general of National Satellite Meteorological Center, chief director of ground segment for FY-3 meteorological satellites and Chinese TanSat. He was chair of Global Space Inter-Calibration System (GSICS) Executive Panel from 2014 to 2017, chief scientist of the national high technology research and development program of China for the space-based radiometric benchmark onboard calibrators (Grant No. 2015AA123700) from 2015-2017. Now he is chief scientist of national key R&D program of China for the retrospective calibration of the historical Chinese earth observation satellites (Grant No. 2018YFB0504900) from 2018-2022. Dr Zhang got his Ph.D at IAP/CAS (Institute of Atmospheric Physics, Chinese Academy of Sciences) for atmospheric physics in 1998. He worked in EORC/NASDA (Earth Observation Research Center, National Space Development Agency of Japan) with Post Doctor position for GLI/ADEOS II project. Since 2001, he worked in NSMC/CMA with Associate Professor (Nov., 2001 — Nov., 2005) and Professor (Dec., 2005 — Present) position. Dr. Zhang intensively involved in conceiving, developing, and operating FY-3 satellite ground segment. With his leadership, Chinese meteorological polar orbiting satellite FY-3 data have been used worldwide and the radiance calibration accuracy of the instruments mounted on the FY-3 has been improved greatly. His research experience covers the atmospheric remote sensing, satellite calibration and validation, and atmospheric radiative transfer calculation, etc. He has authored and coauthored over 90 papers published in refereed scientific journals to date, in addition to editing 2 Books and many book chapters and technical reports.