

GSICS VIS/NIR July 13, 2023 Monthly Web Meeting

Nicolas Lamquin (ACRI), Deep Convective Clouds for Sentinel-3 OLCI Cross-Calibration Monitoring

He discussed the cross calibration of Sentinel-3 OLCI-A and OLCI-B while in tandem phase in the same orbit. The objective is to calibrate each of the 3500+ detectors using DCC identified pixels using a simple IR threshold. Due to the lack of sampling no spatial homogeneity thresholds were applied. To mitigate the impact of the individual detector sparse sampling, a skewed gaussian shape was utilized to determine the inflection point in the brighter half of the histogram or PDF of DCC reflectance. It was found to be more stable across detectors than the mode. Using the inflection point was found to be insensitive to the temperature threshold of either 225K or 205K over either Africa or Indonesia, whereas the peak of the DCC reflectance did shift.

Frederic Romand (ACRI), Radiometric calibration intercomparison of Sentinel-2 MSI, Sentinel-3 OLCI and Landsat OLI using Deep Convective Clouds

He discussed the cross-calibration of Sentinel-2 MSI and Landsat-OLI using only NIR and the cirrus channel threshold identification of the DCC ~60-m pixels, based on large cluster analysis and the removal of shadow pixels. The use of visible channel and cirrus channel thresholds is dependent on well calibrated solar diffuser based sensor data. He tracked the relative analogous channel DCC reflectance for MSI-A, MSI-B, Landsat-8 OLI and Landsat-9 OLI, OLCI-A and OLCI-B. Interesting discussion the relative DCC reflectance ratio maybe dependent on Amazon, African, and Indonesian domains.