

Summary: GSICS VIS/NIR meeting 15 August 2021

Sindy Sterckx (VITO) presented The belharmony approach for harmonization of PROBA-V, DEIMOS-1, LANDSAT-8, and SENTINEL-2 timeseries, to evaluate the consistency of the land use sensors. Uncertainties includes BRDF, RTM, PICS, SBAFs. The radiative transfer model and atmospheric profiles predicted TOA reflectances were the greatest source of uncertainties, whereas the spectral band differences were accounted for using iCOR. It was suggested for various sensor groups to use the same radiative transfer model to tackle to understand the RTM difference.

Sindy Sterckx (VITO) presented PROBA -V Vicarious Calibration : Investigation into the impact of in orbit temperature variation. The PROBA mission was a small satellite demonstration mission. The PROBA sensor did not have fuel and slowly drifted towards the terminator. The focal plane cooling was limited and was impacted by satellite heating, which was not fully characterized before launch. Libya-4, DCC, lunar vicarious methods were used to on orbit stability. It was found that the satellite temperature had an impact on the observed radiances and impacted each band and camera and impacted the NIR band most.

Stefan Adriaensen (VITO) LIME (Lunar Irradiance Model ESA) was funded by ESA and is based on CIMEL instrument measurements on Tenerife and is an ongoing project. Comparisons with AIR-LUSI will evaluate model performance.

Hugh Kieffer (Celestial Reasonings) presented the Status of the SLIMED model: Converging on the real Moon. He summarized the work on lunar calibration beginning in the mid 1980's. The challenge is how to weight all of the lunar measurements. There remains large disagreements between sensor lunar observations, more than likely not related to the onboard calibration, but by secondary optical paths and averaging techniques and blunders. Discussions on increasing the value of GEO lunar measurements, expected improvements to the lunar calibration with CLARREO, AIR-LUSI data were had.