GSICS VIS/NIR web meeting for April 14, 2022

We had 3 presentations and the meeting lasted 2-hours. We had 24 participants

Yeeun Lee from Ewha Womans University presented "Radiance biases based on ray-matching for sensors onboard GK-2 series". The Geostationary Environmental Monitoring Spectrometer (GEMS) UV/VIS grating imaging spectrometer, range 300-500 nm at a pixel resolution of 5-km 5000 km x 5000 km centred on Korea each hour during daylight onboard GEO-KOMPSAT-2B was ray-matched with Advanced Meteorological Imager (AMI) with the 0.470µm channel (1-km resolution geostationary imager) onboard the GEO-KOMPSAT-2A satellite. Both satellites are located at the equator at 128.2°E, which allows for near perfect angle matching. The 0.1° gridded radiance and reflectances were matched in time within 5 minutes. The GEMS/AMI gridded instantaneous reflectance pair scatter plots showed large scatter. No spectral band adjustment were applied for this analysis, which is likely the cause of the scatter. There did not seem to be a seasonal dependency with the resulting slope, however a diurnal slope dependency was observed.

Michael Medford from Planet presented "Evaluating Radiometry within a Heterogenous Satellite Fleet via Continuous Moon Monitoring". This in depth presentation showed the lunar samples taken over time as the flock sensors were improved over time. A very thorough job of how the individual lunar images were captured was explained. Planet uses the ROLO model to monitor the calibration stability of the individual sensors. As the sensor ages the lunar images become hazy, which needs to be accounted for. It is not certain whether it is electronic or optical noise, but the noise increases over time. It was also asked whether why one side of the phase angles showed more noise than the other.

Jing Wang from CMA presented In-orbit Radiometric calibration progress of Fengyun-4B GHI. Geosynchronous High-speed Imager (GHI) is a experimental high resolution imager 2000 km x 2000 km at one-minute rate with 6 visible channels, 5 at 0.5km and one at 0.25km resolution with an associated IR window channel at 2km resolution. The visible channels were ray-matched with NPP-VIIRS used as an absolute calibration reference. Some channels were outside of the 5% specifications. The visible channels were ray-matched with the AGRI the operational imager on FY-4B, this provides near perfect angle matching. The inter-calibration was able to reduce the striping of the GHI.