Contribution ID: **3**   Type: **Oral**

An Update on the Ground Segments of the Hyperspectral DESIS and EnMAP Missions

Wednesday 16 October 2024 14:30 (10 minutes)

Spaceborne imaging spectroscopy has made significant progress over the last years, with missions such as DESIS, PRISMA, HISUI, EnMAP and EMIT providing a wealth of hyperspectral data for geoscientific applications. In this field, DLR has developed and is operating the ground segments for the partially commercial DESIS mission on the ISS, and the German EnMAP mission. This includes the calibration of the sensors, the pre-processing chains (system correction, ortho-rectification and atmospheric correction), data quality assessment, archiving and data provision, as well as many other aspects. Since the launch of DESIS in June 2018, more than 265.000 datasets were acquired, and for EnMAP launched in 2022, currently 124.000 Datasets are made available for scientific applications.

Within this presentation, an update on the ground segments of both missions is given, where the focus is set on the pre-processing and the related data quality, as well as the latest developments for accessing the data within the DLR GeoService. This includes the generation of CEOS Analysis Ready Data (ARD), and the support of the Cloud-Optimized GeoTIFF (COG) format with Spatio-Temporal Asset Catalog (STAC) metadata, allowing for improved search capabilities and bulk data downloads, fulfilling the demanding user needs for AI and deep learning applications.

This expertise is also used for specifying the L2A data products and building the atmospheric correction processor for the upcoming ESA CHIME spectrometer mission, which -together with the NASA SBG mission- will further improve the availability of operational hyperspectral data on a global scale.

Primary author: Dr BACHMANN, Martin (DLR German Aerospace Center)

Co-authors: HEIDEN, Uta (DLR German Aerospace Center); CARMONA, Emiliano (DLR German Aerospace Center)

Presenter: Dr BACHMANN, Martin (DLR German Aerospace Center)

Session Classification: Instruments and systems