



Characterization of DLR's EnMAP simulator

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DLR's Remote Sensing Technology Institute (IMF) recently acquired an imaging spectrometer sensor suite for airborne operation from Norsk Elektro Optikk A/S (NEO): HySpex VNIR-1600 and HySpex SWIR-320m-e. These sensors cover the same spectral range as the hyperspectral mission EnMAP with similar or smaller spectral resolution and will be used to validate and prepare for the spaceborne instrument's data. The characterization measurements performed by the manufacturer will be repeated in DLR's calibration laboratory for imaging spectrometers. These include spectral and spatial resolution, spectral and spatial misregistration, signal-to-noise-ratios, polarization sensitivity and radiometric calibration. Advanced measurements going beyond the initial characterization by the manufacturer are also presented. These include nonlinearity, line spread functions, spectral response functions and spectral stray light. Assessment of in-flight stability of the sensors are derived from the first test flights with the help of additional on-ground measurements. This knowledge about the sensor properties is required for an accurate estimation of measurement uncertainties, which in turn is a necessity if the airborne data is to be compared in a meaningful way with EnMAP data.