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Airborne Remote Sensing Campaign over Svalbard: Image Classification

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We present data from an airborne campaign over Svalbard (78° N, 11°E) using a Dornier 228 airplane equipped with a spectral imager. An overview over the equipment used is given. The routines for selecting, planning and following a selected route are presented and discussed. We also give an overview over additional parameters such as the read-out time of the camera and the resulting overlap of the obtained spectral images and spatial resolution. The purpose of the experiment was to measure the reflective properties of seawater, ice and snow from an altitude of 10.000 ft. Using the Bayes classification method, the imager successfully classified snow, leads, and new and rafted ice. Furthermore, a comparison study between airborne measurements of ocean color and in-situ measurements of optical properties of surface waters is presented. Here, e.g., different substrates and kelp forest distributions in shallow waters are visible.