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BRDF measurements of the spectral reflectivity of Antarctic sea-ice: The first results from the deployment of the GRASS system.

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Spectral BRDF visible measurements of the Antarctic sea-ice around Terra Nova bay, Antarctica are presented. The BRDF is compared to the physical structure and chemical content of the ice. Satellite observations allow for the synoptic observation of large areas of the globe. However, the reflectance of natural surfaces is not isotropic. The reflectance varies with the illumination and viewing geometries, and consequently impacts satellite observations. Thus the bi-directional reflectance (BRDF) of natural surfaces is a pre-requisite for use of satellite data. Sea-ice is a strong potential calibration target. BRDF of snow surfaces is also important for the calibration of optical space sensors, and the Antarctic continent is a proposed calibration site. The results presented here are some of the first results from the new GRASS system (Gonio Radiometer Spectrometer System) built by NPL, loaned from NERC FSF, and to be field deployed at DOME C next year. The sea-ice has a strong forward scattering component, which is weaker for bare ice.

Please list some keywords

sea ice snow reflectivity satellite BRDF albedo black carbon

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