Geophysical Research Abstracts
Vol. 20, EGU2018-1507, 2018
EGU General Assembly 2018

Snow optical retrievals from Sentinel-3

Jason Box (1), Alexander Kokhanovsky (2), Maxim Lamare (3), Ghislain Picard (3), Marie Dumont (4), Carsten Brockmann (5), Olaf Danne (5), Mortimer Werther (5), and Ken Mankoff (1)

(1) Geological Survey of Denmark and Greenland (GEUS), Copenhagen, Denmark (jeb@geus.dk), (2) Vitrociset Belgium, Darmstadt, Germany (a.kokhanovsky@vitrocisetbelgium.com), (3) Institute des Géoscience de l'Environnement (IGE), Grenoble, France, (4) Metéo France–CNRS/CNRM /CEN, UMR 3589, Grenoble, France, (5) Brockmann Consult, Geesthacht, Germany

This presentation presents results from a two year ESA Scientific Exploitation of Operational Missions (SEOM) study "Sentinel-3 for Science (S34SCI), Land Study 1: SNOW" spanning 2017 through 2018. Snow optical retrievals here focus on: Snow Extent; Fractional Snow Cover; Snow Spectral Albedo; Snow Broadband Albedo; Snow Grain Size & Snow Specific Surface Area; and Snow Impurity Content. Experimental work includes accounting for complex terrain effects. The presentation includes: processing chains; mosaic work. Validation results are presented: versus spectral observations from Antarctica and the French Alps; versus 20 PROMICE automatic weather stations on Greenland; via intercomparison of broadband albedo retrievals with the NASA MODIS MOD10A1 product.