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Production of Arctic Sea-ice Albedo by fusion of MISR and MODIS data

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We have combined data from the NASA MISR and MODIS spectro-radiometers to create a cloud-free albedo dataset specifically for sea-ice. The MISR (Multi-Angular Spectro-Radiometer) instrument on board Terra satellite has a unique ability to create high-quality Bidirectional Reflectance (BRF) over a 7 minute time interval per single overpass, thanks to its 9 cameras of different view angles (±70º,±60º,±45º,±26º). However, as MISR is limited to narrow spectral bands (443nm, 555nm, 670nm, 865nm), which is not sufficient to mask cloud effectively and robustly, we have used the sea-ice mask MOD09 product (Collection 6) from MODIS (Moderate resolution Imaging Spectoradiometer) instrument, which is also on board Terra satellite and acquiring data simultaneously. Only

We have created a new and consistent sea-ice (for Arctic) albedo product that is daily, from 1st March to 22nd September for each and every year between 2000 to 2016 at two spatial grids, 1km x 1km and 5km x 5km in polar stereographic projection. Their analysis is described in a separate report [1].

References

[1] Muller & Kharbouche, Variation of Arctic's Sea-ice Albedo between 2000 and 2016 by fusion of MISR and MODIS data. This conference.

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