

Synthetic Aperture Based Sea Ice Products for MOSAiC

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Abstract: Space-borne Synthetic Aperture Radar (SAR) images have proven to be very useful sensor in challenging Polar environment - due to its active radar antenna which can acquire valuable data in most weather conditions, though clouds and darkness. In several polar expeditions, German Aerospace Center (DLR) acquired high-resolution SAR images from the satellite mission TerraSAR-X/TanDEM-X over the planned course, and provided them to navigators on board the ship in near real-time. It has been shown that these targeted acquisitions helped the onboard navigators to identify cost effective routes. MOSAiC campaign, German Aerospace Center (DLR) plans to provide SAR derived sea ice related products such as sea ice type and sea ice drift information through AWI's MapViewer. The sea ice type product is based on dual polarized SAR acquisitions and capable to discriminate between open water and different types of sea ice (e.g. First Year Ice, Multi Year Ice) within Near Real Time. The sea ice drift algorithm is based on two consecutive SAR acquisition and capable to provide high resolution drift information. During the Potsdam workshop we will show examples of above mentioned products which is not only helpful for campaign planning but also might provide useful information to scientists across different scientific domains.