

# Verification of AMSR-2 sea ice concentration and utilization of ship navigation in the Arctic Ocean

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Mitsui O.S.K. Lines, Ltd. (MOL) plans to transport LNG produced in Yamaru through the Arctic Ocean for 28 years from 2018 using the Northern Sea Route.

JAXA offers sea ice products (sea ice concentration, etc.) from the Advanced Microwave Scanning Radiometer-2 (AMSR-2) carried by the Global Change Observation Mission-Water (GCOM-W) via the ship navigation support service 'VENUS' developed by the National Institute of Polar Research and verifies the availability of AMSR2 products for ship navigation.

In addition, JAXA has installed interval cameras developed by Weathernews Inc. on the LNG ship, which enables the acquisition of sea ice information in the Arctic Ocean for long periods.

Based on these field data, sea ice concentrations are calculated using the image analysis system developed by Tanaka et al. (2015), which are then verified against products from the AMSR-2 and the MODerate resolution Imaging Spectroradiometer (MODIS) carried by Terra/Aqua satellite.

In this study, the result of verification are reported.

Keywords: satellite remote sensing, passive microwave, Northern Sea Route