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Title: *Aerosol Size Distribution over the European Arctic Seas*

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We would like to present the data obtained during the polar research cruises of the S/Y Oceania in 2009 - 2012. Arctic Seas are very suitable for marine aerosol investigations as an advection from land occur either less frequently than in other European seas

The aerosol size distribution were measured using laser aerosol spectrometer model 3340, concentration particle counter and laser particle counter CSASP-100-HV-SP. Studies of marine aerosol production and transport are important for many earth sciences such as cloud physics, atmospheric optics, environmental pollution studies and interaction between ocean and atmosphere.

All of equipment was placed on the one of the mast of S/Y Oceania during the ARctic EXperiment (AREX). Measurement using the laser aerosol spectrometer and condensation particle counter were made on one level (8 meter around sea level). Measurement using laser particle counter were performed on five different levels around sea level (8, 11, 14, 17 and 20 m.)

The aerosol source functions, characteristic for the region were also determined. Additionally, poor precision of the sea spray emission determination was confirmed while using only the aerosol concentration data.