



## **Characteristics of phytoplankton physiology inferred from chlorophyll fluorescence in the western Arctic Ocean**

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A recent Arctic survey in the Chukchi and East Siberian Sea using icebreaker R/V Araon revealed some interesting feature of vertical distribution of phytoplankton physiology in 2015 summer. A custom-built Fluorescence Induction and Relaxation (FIRE) system was used for measuring photochemical parameters such as maximum photochemical efficiency of photosystem II ( $F_v/F_m$ ) and functional absorption cross section in near-surface ocean. These parameters provide an express diagnostic of the effects of environmental factors, including nutrient limitation and light acclimation on phytoplankton assemblages. Time-series of satellite ocean colour data were also used for observing large scaled spatial distribution of phytoplankton and its seasonality related with sea ice distributions. Possible implications of these results will be discussed.