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CONTINUOUSLY RADIOSONDE OBSERVATION ON-ICE AND OFF-ICE BY ICEBREAKER PASSING THROUGH MARGINAL ICE ZONE IN LAPTEV SEA.

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Due to the climate change in Arctic region, the sea ice cover is reducing in Arctic ocean and the area of open water, the heat energy could be exchanged with atmosphere, is gradually increasing in recent years. To understand the impact on the Arctic climate according with decreasing sea-ice, the knowledge of air-ice-sea interaction has to be more improved based on observation. In summer 2013, we conducted 6 hourly radiosonde observation on-ice and off-ice by Russian icebreaker "Akademik Fedorov" passing through the marginal ice-zone in Laptev Sea during NABOS project (Nansen and Amundsen Basins Observational System). Total sounding number was 46 during 26th August to 08th September. We were able to make some sets of vertical profile linked ocean to atmosphere by using CTD and XCTD data casted at close to sounding time. These profiles suggest the changing vertical air-sea structure caused by existence sea ice. As primary result, in open water area we can see the air temperature in the boundary layer corresponded with ocean warm surface layer (about 50m depth) so that bottom air temperature was nearly equal to the top of sea temperature. In sea ice area, the warmer air temperature was advected from south by the low pressure system. However air temperature in boundary layer was remaining cold, therefor the strong inversion layer formed at around 500m height. More detail results will be reported on the day.