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### SEASONAL VARIATIONS OF BLACK CARBON AND AEROSOL OPTICAL PROPERTIES OVER BARROW IN THE ARCTIC

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This study presents the results on the simultaneous real-time measurements of black carbon (BC) mass concentration along with aerosol absorption ( $\sigma_{ab}$ ) and scattering ( $\sigma_{sc}$ ) coefficients over Barrow (71.3N, 156.6E; 11 m asl), Alaska during the period between August 2012-and December 2014. The results show the large daily-mean BC variability from 0.2 ng m<sup>-3</sup> to 140 ng m<sup>-3</sup>, with a distinct seasonal variation. The BC,  $\sigma_{ab}$  and  $\sigma_{sc}$  values maximized during winter (December to January), 47±12 ng m<sup>-3</sup>, and 0.49 Mm<sup>-1</sup> and 7.19 Mm<sup>-1</sup> and dropped during summer (June to September) to 8 ± 2 ng m<sup>-3</sup>, and 0.04 Mm<sup>-1</sup> and 1.72 Mm<sup>-1</sup>, respectively. The variability of BC aerosols over different timescales (daily and monthly) is well correlated with submicron aerosol light absorption and scattering coefficient.

Detailed analysis and results from this study will be presented at the meeting.