Geophysical Research Abstracts,
Vol. 11, EGU2009-5550, 2009
EGU General Assembly 2009

Use of sodars to study ice-atmosphere chemical exchange on high-latitude ice sheets including first results from Summit Station, Greenland

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Sodars have proven quite valuable in explaining meteorological processes at work at the South Pole that lead to high concentrations of NO in the boundary layer during the austral summer. Past boundary layer characterization on the Greenland ice sheet, primarily at Summit station, have used both surface turbulence measurements as well as the 50-m tower there. While past turbulence measurements have been used to estimate the boundary layer depth using a variety of scaling relationships, there have been no direct measurements. Here we report on the first such direct measurements using sodar.