



## **Iodine chemistry in the polar boundary layer**

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Iodine is important in the Earth's troposphere for several reasons, including the catalytic destruction of ozone, altering the oxidizing capacity, and the formation of ultra-fine aerosol, all with potential impacts on climate. Nevertheless, the role of iodine chemistry has so far remained virtually unconsidered in studies of the polar troposphere. Only recently, the occurrence of high concentrations of IO over vast sea-ice covered areas of the Southern Ocean and around coastal Antarctica has been reported. The sources of such a large iodine burden in the Antarctic atmosphere remain unknown. This talk will address ground- and satellite-based observations of the IO radical over coastal Antarctica. Also, it presents a novel mechanism for biologically-induced iodine release from sea-ice surfaces. Numerical modeling studies on the impact of iodine upon the chemistry of the Antarctic lower troposphere will also be presented.