



Chamber studies of the formation of iodine oxide particles

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A new simulation chamber has been constructed to study the atmospheric chemistry of halogen compounds. The 2 m³ chamber features a photolysis lamp that provides a reasonable simulation of the solar spectrum and a broadband cavity-enhanced absorption spectrometer for highly sensitive, in situ measurements of I₂, IO, and OIO. In this work, we present the results of a series of experiments to study iodine chemistry and particle formation following the photolysis of molecular iodine, I₂, and its reaction with ozone. The effects of I₂ and ozone concentrations, the photolysis rates, and the residence time of particles in the chamber are investigated. These studies aim to elucidate processes that occur in the coastal boundary layer after the release of photolabile iodine species.