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Reaction of iodine with ozone and nitrogen oxides studied in an atmosphere simulation chamber

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The reactions of molecular iodine with ozone and nitrogen oxides were studied in a 2 m^3 atmosphere simulation chamber to elucidate processes that occur in the coastal boundary layer after the release of photolabile iodine species. Reactions were initiated by turning on a broadband light source to photolyse I_2 and form atomic iodine. The progress of the reactions was followed using in situ measurement of reactants (I_2, O_3, and NO_2) and reaction intermediates (IO and OIO). Particle formation was observed in several of the experiments. Here we present the results of a series of experiments to study the rate of reaction of I_2 with O_3 and NO_x. Experimental results are compared against a box model simulation using literature rate coefficients.