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DOAS measurements of reactive halogen species at two different measurement sites in Carna, Ireland

K. Seitz , D. Poehler, J. Buxmann, U. Platt

Institute of Environmental Physics, University of Heidelberg, Germany
(Katja.Seitz@iup.uni-heidelberg.de / Fax: +49 6221-546405 / Phone: +49 6221-546385)

Recent field and laboratory studies are indicating a great relevance of reactive iodine in new particle formation processes. Since particles in the marine atmosphere affect the microphysical properties of clouds, they have a potential impact on climate.

Objective of MAP (Marine Aerosol Production) was to quantify the key processes associated with primary (PMA) and secondary marine aerosol (SMA) production from natural sources.

In summer 2007 DOAS measurements of reactive halogen species (RHS) have been performed not only at Mace Head research station but also at the Martin Ryan Institute in Carna at the same time. The measurement sites are less than 5 km apart from each other. Nevertheless the time series of the two sites show a different behaviour which is due to different occurrence of seaweed emitting precursors of iodine oxides and molecular iodine.

In addition two a usual lightpath of 2 km one-way at MRI, a very short lightpath of 500 m one-way has been established. Interestingly these measurements indicate that the IO signal is just from the intertidal areas.

Results from both sites and different lightpaths will be presented.