



The role of bromine in stratospheric ozone depletion and its relation to changes in stratospheric water vapour

B.-M. Sinnhuber, N. Sheode and M. Sinnhuber

Institute of Environmental Physics, University of Bremen, Bremen, Germany
(bms@iup.physik.uni-bremen.de)

Bromine plays an important role in stratospheric ozone loss. The relative contribution of ozone loss cycles involving bromine maximizes in the lowermost stratosphere, where it forms a significant fraction of the total chemical ozone loss. As the most important bromine related ozone loss cycle involves the reaction of BrO with HO₂, this raises the question how changes in stratospheric water vapour will affect the role of bromine in stratospheric ozone depletion. To address this question we will present calculations of the impact of bromine on stratospheric ozone under different levels of stratospheric water vapour using a two-dimensional chemical transport model. The model results are then discussed in the light of the newly available BrO measurements from the SCIAMACHY instrument onboard the ENVISAT satellite.