

Continuous observation of NO_y and HNO_3 at Cape Hedo, Okinawa: Analysis and comparison with CMAQ chemical transport model

Minoru Hamana[1]; Junichi Kawakami[1]; Yasuhiro Sadanaga[1]; Akie Yuba[2]; Norimichi Takenaka[1]; Hiroshi Bandow[1]; Akinori Takami[3]; Shiro Hatakeyama[3]; Itsushi Uno[4]

[1] Appl. Chem., Osaka Pref. Univ.; [2] DAMS, Osaka Prefecture Univ.; [3] NIES; [4] RIAM, Kyushu Univ.

Our group has been observing continuously the concentrations of NO_y and HNO_3 at Cape Hedo, Okinawa, in order to diagnose cross-border pollution from Asian continent. HNO_3 is thermodynamically stable, so that it is an end product in NO_y and is important as an indicator of the understand the extent of photochemical reaction during the transport. HNO_3 has also importance with the acid deposition.

In this work, we compared the observational results of NO_y and HNO_3 with the values obtained by CMAQ chemical transport model. In this presentation, we describe the characteristics of the concentrations in each air mass classified by the backward-trajectory analysis, the comparison the observational results with the continuous obtained by CMAQ model, and the difference of the concentrations between 80km and 20km mesh on CMAQ model.