



## **Comparison between GOME and surface measurements of tropospheric NO<sub>2</sub> over Japan**

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We compared GOME (Global Ozone Monitoring Experiment) and surface measurements of tropospheric NO<sub>2</sub> over Japan with the results calculated by CMAQ/REAS model (Community Multi-scale Air Quality/Regional Emission inventory in Asia) [Uno et al., 2005]. GOME observed global distribution of tropospheric NO<sub>2</sub> during 1996–2003 [Richter et al., 2005]. The surface measurements of NO<sub>2</sub> in Japan were routinely conducted with the air-monitoring network composed of more than 1000 stations.

Although the relative amplitudes of the seasonal variations of the GOME-NO<sub>2</sub> was two to three times larger than those of the surface measurements and the model outputs, the GOME/surface measurements and the model outputs had a similar seasonal variation, which were asymmetric with a rapid increase in fall and a slow decrease in spring. The consistency suggests that the GOME successfully observed the NO<sub>2</sub> behavior in the lower troposphere over Japan.