

First results from the GMAP campaign in South Korea

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Abstract

The GEMS Map of Air Pollution (GMAP) campaign took place in Korea with focus on the Seoul Metropolitan Area from October to November 2021. Ground-based stationary, car and airborne DOAS measurements as well as multiple in-situ measurements were conducted from several international teams. The measurements are used to validate data from the Geostationary Environment Monitoring Spectrometer (GEMS), which was launched in February 2020 and is the first geostationary air quality monitoring mission in orbit.

In this presentation the GMAP campaign 2021 and their first results with focus on NO₂ are presented. Ground-based stationary DOAS instruments have participated in an intercomparison campaign and show good results. MAX-DOAS azimuthal scans provide important information about spatial variability, an important point for GEMS validation. The first MAX-DOAS profiling results give additional insights into near surface concentrations with high spatial and temporal variability. On 13 days car DOAS measurements could be performed which are analyzed for intra-pixel variability and GEMS validation.