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Talk information:

**Title:** A New Retrieval Algorithm for OMI NO2: Tropospheric Results and Comparisons with Measurements and Models

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**Abstract:** Nitrogen oxides (NOx =NO+NO2) are important atmospheric trace constituents that impact tropospheric air pollution chemistry and air quality. We have developed a new NASA algorithm for the retrieval of stratospheric and tropospheric NO2 vertical column densities using measurements from the nadirviewing Ozone Monitoring Instrument (OMI) on NASA's Aura satellite. The new products rely on an improved approach to stratospheric NO2 column estimation and stratosphere-troposphere separation and a new monthly NO2 climatology based on the NASA Global Modeling Initiative chemistry-transport model. The retrieval does not rely on daily model profiles, minimizing the influence of a priori information. We evaluate the retrieved tropospheric NO2 columns using surface in situ (e.g., AQS/EPA), ground-based (e.g., DOAS), and airborne measurements (e.g., DISCOVER-AQ). The new, improved OMI tropospheric NO2 product is available at high spatial resolution for the years 2005-present. We believe that this product is valuable for the evaluation of chemistry-transport models, examining the spatial and temporal patterns of NOx emissions, constraining top-down NOx inventories, and for the estimation of NOx lifetimes.