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Total Ozone from the Ozone Monitoring Instrument (OMI) Using the Doas Method

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The Ozone Monitoring Instrument (OMI) is one of four instruments on the NASA EOS-Aura satellite, that was successfully launched on July 15, 2004. OMI is an imaging spectrometer in the ultraviolet and visible part of the spectrum (270 to 500 nm) and was contributed to the Aura mission by The Netherlands and Finland. With its unprecedented spatial resolution of 13x24 km^2 at nadir and daily global coverage, OMI promises highly interesting scientific results and will make a major contribution to our understanding of stratospheric and tropospheric chemistry and climate change.

In this contribution we present early results of the OMI total ozone product derived using the DOAS technique. This product is one of two OMI total ozone products, the other product is based on the TOMS method. The DOAS implementation for OMI includes state-of-the-art features, such as improved methods for accounting for rotational Raman scattering and atmospheric temperature changes. These new features use the full spectral capabilities of the OMI instrument to derive the total ozone column.

We will present global maps of ozone as well as results of initial validation with ground based observations. Also, we will compare with other satellite data products, such as derived from SCIAMACHY and TOMS. Comparisons between the two OMI total ozone products, derived using the DOAS and TOMS methods, will be presented. We intend to show (potential) users of the total ozone products the benefits of OMIs spatial resolution and daily global coverage.