



Nitrogen dioxide column retrieval from AERONET data: first results and comparison with published estimates in different geographical sites

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The poster summarizes the methodical and practical issues associated with the atmospheric NO_2 column amount retrieval under conditions of the anthropogenic pollution using the data of the global aerosol network - AERONET (AEROSol Robotic NET-work). The basic network sun-photometer Cimel provides measurements of downward spectral solar radiances in 7 narrowband aerosol channels.

Our approach consists in the use of the least-squares procedure for determination, from the measured optical thickness, of the parameters of several aerosol models and respective magnitudes of NO_2 column. The best model and its respective NO_2 column is chosen proceeding from the minimum average square of the discrepancy between measured and model (NO_2 + aerosol) optical thicknesses in Cimel channels, i.e., on the basis of the classical criterion of the likelihood ratio, used for recognition of statistical hypotheses. Concrete realization of the choice algorithm, including calculation of discrepancies of the measured and retrieved optical thicknesses in Cimel channels, is described.

The analysis of the first results of NO_2 retrieval in several AERONET sites together with a comparison with simultaneous measurements which have been conducted by other satellite and ground-based instruments are presented.