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# EVALUATING THE ERRORS OBTAINED BY USING DIFFERENT REFERENCE SPECTRA IN DOAS ANALYSIS

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**Abstract**

This paper presents a complex analysis on the errors of a DOAS (Differential Optical Absorption Spectroscopy) analysis. The error analysis is performed for the measurements made in Galati city and Tulcea county in October 2018. The investigation is made in the spectral window 425-490 nm which is can be used for the NO2 detection in the lower atmosphere. For our study we used two sets of reference spectra one recorded during a measurement campaign and one recorded in May 2015 in a remote area in Transylvanian at high altitudes where NO2 sources are scarce. This investigation will provide a more reliable method of reducing the errors in NO2 DOAS spectral analysis by selecting appropriate reference spectra.

**Keywords:** mobile DOAS measurements, NO2 VCD, GIS.