



## **Employing the MAX-DOAS geometry in the process of retrieving a vertical profile of nitrogen dioxide concentration**

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Nitrogen dioxide is an active atmospheric component appearing in the atmosphere both naturally and as a result of human activities. Therefore, the problem of designing instruments and elaborating methods to determine NO<sub>2</sub> amount in the atmosphere is among the priority issues.

For this purpose, a device has been engineered to register spectra of diffuse solar radiation from various segments of the celestial sphere. Registration of spectra is performed in a range of 410-480 nm at elevation angles of 0-90°. A new empirical method of retrieving NO<sub>2</sub> concentration profile from spectral observations of the sky irradiance is proposed. The method is based on comparison of the model and actually measured spectra. The modeling has been realized employing the RTM LibRadTran.