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NO_2 evolution at global level using the space instruments SCIAMACHY, OMI and GOME-2

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The main objective of this study is to evaluate the amount of NO_2 at global level above twenty five worldwide urban agglomerations or station during 2002-2015. Tropospheric NO_2 Vertical Column Density (VCD) are derived from various satellite UV-Vis instruments: SCIAMACHY (SCanning Imaging Absorption spectroMeter for Atmospheric ChartographY) onboard Envisat, OMI (Ozone Monitoring Instrument) onboard AURA and GOME-2 (Global Ozone Monitoring Experiment Measurements-2) onboard Metop-A& B. Possible dependence of the evolution of the density of NO_2 molecules above the major cities on demographic, economic, industry characteristics are investigated. Causes for various trends of the NO_2 column, depending on geographical characteristics, altitude, are also analysed.