



## Measurements of turbulent enhancement ratios of $\text{NO}_x$ , $\text{CO}_2$ and several combustion markers in the urban atmosphere

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The issue of excessive levels of nitrogen oxides across Europe has sparked a wide debate about the implementation of air quality policies (Guerreiro et al. 2012; Heimann et al. 2007; Carslaw et al. 2011; Gentner and Xiong 2017). High levels of  $\text{NO}_x$  are also observed across the Alps (Moosmann et al. 2008), which are often considered to be more pristine than urban population centers across Europe. Here we present first results from long-term measurements of turbulent enhancement ratios and fluxes of  $\text{NO}_x$ ,  $\text{CO}_2$  and several selected combustion markers (e.g. benzene, acetonitrile, furan) in the city of Innsbruck. The method of turbulent enhancement ratios is validated against direct flux measurements for these compounds. We show that this dataset allows establishing constraints for urban emission inventories on the scale of a city and helps to decipher traffic related emissions in an urban air matrix.

### References:

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