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Comment

## ***Interactive comment on “Anthropogenic imprints on nitrogen and oxygen isotopic composition of precipitation nitrate in a nitrogen-polluted city in southern China” by Y. T. Fang et al.***

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I'm wondering if the authors have to opportunity to compare their  $^{15}\text{N}$  ratio with the  $\text{NO}_2/\text{NO}_x$  ratio in their urban site. Freyer et al., (jgr, 98, 14791, 1993) proposed an analytical approach focusing on the nitrogen isotopic exchange between  $\text{NO}_x$ , limited by the photochemistry. Even if this paper treated the  $\text{NO}_x$  species, a comparison with nitrate might be useful.

Regarding their analytical method, I wonder if the difference in  $^{18}\text{O}$  of their rain water and the laboratory water used with their USGS standards can be the reason for their lower nitrate  $^{18}\text{O}$ . As written, it appears to me than the oxygen exchange during incu-

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bation is not properly treated by their calibration method if sample and standard water matrix are different.

Also a small technical error, page 21455, line 20: "systematically lower" and not "systemacally higher".

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Interactive comment on Atmos. Chem. Phys. Discuss., 10, 21439, 2010.

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