Measurement technique of the nitrogen isotope ratio of NOx collected by the filter-pack method and its application.

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NOx (NO and NO2) is quite important in atmospheric chemistry as well as in the biogeochemistry. Although natural abundance of stable nitrogen isotope is a promising tool for the the investigation of NOx dynamics in the enviornments, nitrogen isotopic measurement of NOx is quite difficult due to its high reactivity. We combine the filter-pack method (Watanabe et al. 2006) to capture NOx with the denitrifier method (Sigman et al. 2001) to measure nitrogen isotopic signature of NOx in the actual enviornments.. We found that the filter-pack method can be applied for atmospheric NOx samples including the soil-emitted NOx. We present our preliminary data obtained from the field and discuss the limitation and possibility of our filter-pack method in the presentation.

Keywords: d15N, NO gas, denitrifier method

