

It should be mentioned that the measurements of NO_2 was via conversion to NO by a molybdenum NO_2 -to- NO converter heated to about $325\text{ }^\circ\text{C}$, which is known to suffer from the interference of other NO_y compounds such as PAN and HNO_3 (Steinbacher et al., 2007; Jung et al., 2017). This implies that the measured NO_2 concentrations have to be viewed as an upper limit. However, it is not possible to quantify the overestimation due to the lack of other information. The interference might be enhanced with the increasing PAN/ NO_x ratios. Qiu et al. (2020) reported an increasing PAN/ NO_x ratio from 2011 to 2018 at a background site in North China Plain, but it is not clear if there was similar increase in PAN/ NO_x in the YRD. During the transport of air masses to the background site, HNO_3 should have been reduced by deposition and partitioning in the particulate phase and intercepted by filters before NO_x is measured. The overestimation of NO_x by partial conversion of NO_z (NO_y - NO_x), produced by NO_x oxidation, in turn, might be a positive offset in the difference between the concentration and emission of NO_x when discussing their long-term trends.