**Atmospheric
Chemistry
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Discussions**

Interactive comment on "The challenge to NO$_x$ emission control for heavy-duty diesel vehicles in China" *by* Y. Wu et al.
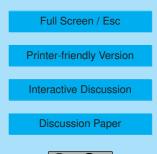
Anonymous Referee #2

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Review of "The challenge to NOx emission control for heavy-duty diesel vehicles in China" by Wu et al.

This paper attempts to estimate the emissions of NOx from a range of heavy duty vehicles in China using on-board emission measurements (PEMS). I think this is a very useful piece of work which could have important implications for NOx emission inventories in China and beyond. The findings are clearly important and relevant to ACP and should be published. The paper is well-written and well structured and I can find little to criticise.

It would be good to know however, whether NO and NO2 were speciated in the measurements – I think not and only NO was measured? If this is the case then the authors should state so. In heavy duty vehicles typically about 15% of the total NOx is in the

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form of NO2 (by volume), but the amount will depend on the driving conditions. The SCR system also produces NO2 as part of its operation and vehicles fitted with SCR could emit higher proportions of NO2. Again, if this is the case a measurement of just NO will 'miss' an important contribution of NO2. The authors should therefore clarify exactly what has been measured and add additional discussion about the implications if the NOx measurements are actually NO. Similarly, if NO2 and NO were measured it would be very useful to have the emission factors speciated throughout the paper.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 18565, 2012.

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