

***Interactive comment on “Abundance and distribution of gaseous ammonia and particulate ammonium at Delhi (India)” by S. Singh and U. C. Kulshrestha***

**M. Ferm (Referee)**

Martin.Ferm@ivl.se

Received and published: 17 January 2012

There are simpler ways to measure the ammonia concentration. An impinger must lose a lot of water in the warm Delhi. Besides the efficiency was only 83%. An acid impregnated filter has about 99 % efficiency, is easier to handle and does not lose water. The sampling artefact due to filtration should not be a big problem when the gas phase is so high compared to the particulate ammonium concentration. I think, however, that the denuder technique should be mentioned. There are not many ammonia measurements in cities. The concentrations measured here are very high and it would be of interest to know if it is much higher than the regional background concentration

C15

outside the city. If Delhi is a large source of ammonia, I think it is important to find the major sources in future projects.

---

Interactive comment on Biogeosciences Discuss., 9, 191, 2012.