

Interactive comment on “Observation of nocturnal NO₃ during vehicular activities in the medium sized city of Calicut in coastal India” by Kuttoth Suhail et al.

Anonymous Referee #1

Received and published: 11 February 2019

The paper describes the application of an IBCEAS instrument for the detection of the nitrate radical in an urban environment in India. Unfortunately, the paper lacks novelty or substantial progress in instrument technology. The instrument described in this paper has been used in a similar way earlier by the same group of authors and results including the description of the instrument has recently been published by them (Suhail, K., George, M., Chandran S., Varma, R., Venables, D.S., Wang, M., and Chen, J.: Open path incoherent broadband cavity-enhanced measurements of NO₃ radical and aerosol extinction in the North China Plain, *Spectrochimica Acta Part A*, 208, 24-31, doi: 10.1016/j.saa.2018.09.023, 2019.). In addition, NO₃ detection by IBCEAS instruments is an established method that was described by several groups

C1

in the past. No novel approach is shown in this paper. The paper is mixed with the description of results from the application of the instrument in an urban environment close to diesel exhaust emissions. No direct connection between measurements and instrumental questions is shown in the description of the measurements that would be expected for this journal. However, there is also no attempt to explain the plausibility of measurements. It seems rather unlikely that high NO₃ concentrations as measured by the instrument here are present close to the emission of diesel exhaust with presumably high NO emissions. Unfortunately, no further details of NO_x measurements that were done in the monitoring station close to the site where NO₃ was measured are given in order to support results. A discussion about the plausibility of measurements is missing. For these reasons, I recommend to reject the manuscript.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2019-6, 2019.

C2