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European Geosciences Union

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Ambient formaldehyde measurements made at a remote marine boundary layer site during the NAMBLEX campaign – a comparison of data from chromatographic and modified Hantzsch techniques" *by* T. J. Still et al.

Anonymous Referee #2

Received and published: 4 January 2006

General Comments

Ambient formaldehyde measurements are an important and difficult issue, and have received increasing attention recently, for example through the FORMAT project, the relevant part of which was published as Hak et al, Atmos. Chem. Phys 5, 2881-2900, 2005. Although the disagreement between the two sets of measurements here is not resolved, the inclusion of the gas chromatography technique means that the paper makes a valuable contribution to the published information on measurement

techniques in field conditions, as well as the more specific contribution to the data from Mace Head during the NAMBLEX campaign in August 2002, and its interpretation. As such it merits publication in ACP. The comments below are brief and do not cover the atmospheric chemistry and modelling parts of the paper.

Specific Comments

12532 l.10 Insert “laboratory” before intercomparison. The simple composition of the test atmosphere could well be significant.

12539 l.5-15 The text implies that the only accurate concentration was at 7 ppb, in the blind sampling. In fact many known concentrations in the range 0 - 8 ppb were generated, including an overnight test at 0.5 ppb. The two instruments agreed well whenever only formaldehyde and scrubbed air were present. Deviations were noted when ozone (as described) or water vapour were added. The inconclusive water vapour interference experiment should be mentioned.

12540 l.5 The discussion of the offset would benefit from a more complete list of possible causes, together with whatever evidence relevant to each is available, eg calibration/linearity with dry formaldehyde; interference from other gases; instrumental dependence on temperature etc; sample line losses; spatial variations in concentration.

12540 l.25-27 It should be made clear that these experiments are the ones described above.

12551 l.15-19 The sentence does not seem to make sense as the DOAS is higher in both cases.

Technical corrections

12538 l.21 Insert “minimum uncertainty” for “minimum error”

12539 l.3 June not July

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12539 l.3 “Physical Laboratory” not “Physics Laboratories”

12552 l.15 “P.G.Quincey, N.A.Martin” not “P.Quincey, N Martin”

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 12531, 2005.