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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Overview of the field measurement campaign in Hyytiä" *by* M. Boy et al.

M. Boy et al.

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Thanks Referee 2 for your critical comments. In the following I will comment on you specific points. The technical corrections you suggested will be taking into account in the final version of the manuscript.

Point 1: The two DMPS systems are measuring on parallel. They have a common inlet and common neutralizer. The first DMPS is covering the small particle range 3-15 nm and the second one above 15 nm up to 500nm. However, there is a reference (Aalto et al., 2001) to paper which gives a detailed description of the instrument and the authors believe that such a description should be not included in an overview paper with many different instrumentation.

Point 2: Artifacts will be changed to artefacts and two references (Kirchstetter et al., 2000 and 2001) will be included in the MS.

Point 3: We will change the concerned sentence in: This result could be not confirmed through our measurements.

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Point 4: We do not agree with the referee in this point, because in the introduction in paragraph 3 we mentioned that after Kulmala et al., ternary nucleation can occur at typical tropospheric conditions leading to a reservoir of TSCs which under certain conditions grow to detectable sizes. The other assumption of the referee that we had vertical profiles of particles with size distribution and SO2 concentrations is not correct. So the goal of the referee to look at the effect on nucleation by SO2 at the ground was already done in other publications (e.g. Boy and Kulmala , ACP 2, 1-16, 2002) and should that at least in Hyytiälä no correlation between particle formation and SO2 concentration was visible.

Point 5: After long and detailed discussion special between the two responsible groups in Greece and Portugal, the Group of Portugal found some errors in the prediction of the calibration files they used to calculate the concentrations of formic and acetic acids. Now the ratios are much more in agreement: formate/acetate average 1.26 for Greece and also 1.26 for Portugal. However the absolute concentrations are still 4 to 5 times higher measured by the Greece group. The lower values could be resultant from: -lower collection efficiency with the denuders -loss of material by degradation during storage However, it is until now unclear which effects are responsible for the much lower concentrations from the Portugal group. We will include the new values in table 3 in the final paper version.

Interactive comment on Atmos. Chem. Phys. Discuss., 3, 3769, 2003.