

Interactive comment on “Two years of near real-time chemical composition of submicron aerosols in the region of Paris using an Aerosol Chemical Speciation Monitor (ACSm) and a multi-wavelength Aethalometer” by J.-E. Petit et al.

Anonymous Referee #1

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The paper reports and analyses 2 years of high time resolution measurements of PM₁ made using the ACSM and Aethalometer. This is a well structured and highly relevant paper, contributing to the understanding of the concentration and sources of a range of chemical components of sub-micron aerosol in a major European city. It uses the latest available technology to measure these concentrations over the long term to assess different pollution episodes, seasonality and account (as much as possible) for inter-annual variability. As the ACSM technique is relatively new to the literature, a comprehensive reporting of ionisation efficiencies and relative ionization efficiencies

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would be helpful. In particular the variability in NO₃ IE experienced and the sulphate RIE. There are numerous typographical / grammatical errors, here are my suggestions: Pg 2 Line 33: First use of OM, needs to be in full Pg 3 Line 10: Yearly should read annual Pg 3 Line 27: Second use of OM, doesn't need to be in full Pg 5 Line 24: 'close from' should read 'close to' Pg 6 Line 34-35: Sentence does not quite make sense Pg 7 Line 20: delete 'areas' Pg 7 Line 25: delete 'a' Pg 9 Line 11: 'Temperatures' should be singular Pg 9 Line 12: 'rainfalls' should be singular Pg 9 Line 28: 'years' should be singular Pg 9 Line 33: 'this' should read 'and is' Pg 10 Line 11: 'Contribution' should read 'The contribution' Pg 11 Line 12: 'increase' should read 'increases' Pg 13 Line 29: delete 'a' Pg 13 Line 33: 'control' should read 'explain' Pg 14 Line 23: 'points the' should read 'points to the' Pg 16 Line 32: 'allows to appraise' should read 'allows an appraisal of' Pg 17 Line 17: 'making difficult' should read 'making it difficult'

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 24221, 2014.