

Interactive comment on “Formation and growth of atmospheric nanoparticles in the eastern Mediterranean: Results from long-term measurements and process simulations” by Nikos Kalivitis et al.

Anonymous Referee #2

Received and published: 5 July 2018

"Formation and growth of atmospheric nanoparticles in the eastern Mediterranean: Results from long-term measurements and process simulations" reports long term data from a Station in South Europe. Whilst the data are of good quality and worth publication (long term smps data are scarce) the analysis is fair and does not add any new result. The increasing trend (and decreasing trend) of NPF and GR (respectively) may suffer from lack of data at the beginning of the period (2008-2012) relative to the last part of the period (2012-2015) - the trend may be a simple artifact.

- line 8 abstract : biogenic - marine or land or both? specify - line 11-13 Do not un-

C1

derstand what the sentence means. please rephrase and specify simply you see NPF during night time (seen elsewhere too). - sentence 18-22 not very clear - maybe concomitant ion size distributions suggests ... - pg 3 perhaps report the study of Dall'Osto et al (2018, Sci. Rep.) reported by same co-authors showing south Europe is different from Central and North Europe. - pg 8 line 16-20 I think this is not correct, likely the longest SMPS size distributions are likely in Barcelona and regional areas of Montseïn (Dr. Querol's group). - Increase NPF events and decreased GR - this is interesting, it makes sense if the CS is lower over time, there is likely more NPF events, and they likely grow less cause likely you have less condensing material. - Figure 8a. I think the whole conclusion may simply be noise. If looking at figure 8a, you see 2008-2010 you have less datapoints (perhaps in spring - summer) that causes the trend you may have. It looks if you remove the 2008-2009, the trend to me is not existing. I would be careful to say there is a trend (and so I would remove and change all abstract) - it is visually clear that years 2008-2010 have smaller data coverage than 2013-2015. - Considering the above, I see this study does not add much additional novel results, although it is worth publication cause you clearly see a long SMPS time trend showing spring nucleations (different from typical summer ones).

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-229>, 2018.

C2