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Interactive comment on “Evidence of an elevated source of nucleation based on model simulations and data from the NIFTy experiment” by P. Crippa et al.

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The conclusions of ‘non-local nucleation’ arising from analyzing figure 7, from the ‘low ratio of 3nm to 6nm particle number concentrations’ (Discussion, p. 11996, line 5) and ‘the presence of a closed contour line around the highest number concentrations’ (caption of fig. 7) may be wrong. As the contour plot in figure 7 is expressed as $dN/d(\log D_p)$ (which is equal to $D_p \cdot dN/dD_p$), the phenomenon seen in the figure (the reddest colour is not at 3 nm but at somewhat larger sizes) is actually expected for an aerosol growing by condensation, see e.g. Lehtinen and Kulmala (ACP 3, 251–257, 2003).

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We also would like to point out that Laaksonen et al. (ACP 8, 2657-2665, 2008) made aircraft measurements during a nucleation event in Hyytiälä and showed that the event started at the surface and evolved with the evolving boundary layer.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 11979, 2012.

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