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Atmospheric Chemistry and Physics Discussions

Interactive comment on "New particle formation events measured on board the ATR-42 aircraft during the EUCAARI campaign" *by* S. Crumeyrolle et al.

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We thank referee n°1 for his detailed and constructive comments on our manuscript. We have revised the manuscript attempting to take into account all the comments raised.

Referee 1.1 : The sentence on page 9338 lines 18 – 19 could be reworded to make it clearer.

"As a consequence of the air mass dispersion, the frequencies of detected NPF events decrease with the duration of backward calculations (from 24 to 48 h)." The sentence has been rewritten: "As a consequence of the air mass dispersion, the total number

of air masses originating from one specific square and associated with NPF events generally decreases with time for each calculated back-trajectory (from 24 to 48 h)."

Referee 1.2 : The word "contain" on page 9339 line 7 is probably an error.

"Besides, air masses with initially high particle contain such as air masses originating from eastern Europe are not favourable to NPF events. " The sentence has been changed: " In addition, air masses with initially high particle concentrations, as for example air masses originating from eastern Europe, do not seem to be favourable to NPF events."

Referee 1.3 : The word "Then" on page 9340 line 13 seems superfluous.

In the revised version of the manuscript, this word ("Then") has been removed.

Referee 1.4 : Figure 2 is missing sub-figure letters.

The sub-figure letters a) and b) have been added to figure 2 in the revised manuscript.
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By the way another sentence that seems to us a bit difficult to understand (on pg. 9338 line 24-28) has been rewritten to be more comprehensible.

New formulation:"These observations are confirmed by the 48-hour back-trajectory analysis. The analysis demonstrated that the probability of NPF occurrence is higher than 90% (Fig. 2b), when the air masses originated from the South-West of Europe or from North of Scandinavia."

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 9329, 2010.