Copernicus Publications Editorial Support

Dr. Rolf Weller

ALFRED-WEGENER-INSTITUTE FOR POLAR- AND MARINE RESEARCH Am Handelshafen 12

email: rweller@awi-bremerhaven.de

D-27570 BREMERHAVEN

1 (xx471) 4831 - 1508

T-fax: (xx471) 4831 - 1425

-05 October 2015

Manuscript Number: acp-2015-242, revised version

Title: "Natural new particle formation at the coastal Antarctic site Neumayer" by R. Weller et al.

Dear Natascha Töpfer,

Please find below my reply to the comments of the editor and how we revised our manuscript. We thank the editor for his hint and corrected eq. 3 and Table 1 accordingly. Note that all relevant changes in the revised manuscript are again marked in yellow.

I state that my co-authors concur with submission in its revised form.

Sincerely yours -Rolf Weller

encls.

Response to editor

Thanks for your effort in addressing the comments. With regard to the growth rate equation, I double checked and found that your original equation should be correct. You can derive the diameter growth rate by $d(1/6 \text{ pi Dp^3})/dt = 1/4 \text{ c v m/density}$ (also see Equs. 12.13 and 12.25 in the textbook by Seinfeld and Pandis, 2006). In other words, Equ. (8) of Yli-Juuti et al. (2011) appears to be off by a factor two. Please double check this.

The editor is right, I can easily retrace the formula as derived in Nieminen et al. (2010) but not the one given in Yli-Juuti! Thus a factor 2 in the denominator should be right. We thank the editor for his hint and corrected eq. 3 and Table 1 in our manuscript accordingly.

.