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Interactive comment on “The importance of interstitial particle scavenging by cloud droplets in shaping the remote aerosol size distribution and global aerosol-climate effects” by J. R. Pierce et al.

Anonymous Referee #2

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This paper explores the role of coagulation of interstitial aerosol particles with cloud droplets. The authors find that this process reduces cloud condensation nuclei concentrations by 10% with a non-negligible impact on cloud albedo. The paper argues that this process should be included in aerosol – climate models. The paper will be of interest to the aerosol modelling and aerosol – climate communities. The paper is well written and I suggest publication in ACP. A few minor editorial corrections are listed below.

It would be interesting to see how this process alters the simulated aerosol size distribution – this would also help interpret the reported changes to aerosol number con-

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centrations. A suggestion would be to plot simulated aerosol size distributions from the BASE simulation in comparison to one of the other simulations at a few locations.

Minor corrections

P5593, Line 27. Spracklen et al. (2007a, b) cited but not in reference list. P5597, Line 16 Missing “)”. P5600, Line 18. Missing “particles” after “CCN-sized”.

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 5589, 2015.

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