

***Interactive comment on* “Technical note: Characterization of a static thermal-gradient CCN counter” by G. P. Frank et al.**

Anonymous Referee #2

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General Comments: This paper provides a good outline on the SDC CCN counter, its limitations and inherent errors, and a calibration technique. While the calibration suggested will work well for inorganic salts, more complex and organic-laden aerosols may cause additional problems.

Specific Comments: Comments related to how larger particles, activated at lower supersaturation, fall thru the detection beam would be a useful addition to this work. This concept should be discussed by the authors. Also, organic aerosols which grow slower may not show a peak in droplet concentration within the 15 seconds allotted inside the chamber. The scattering of these particles will also be different and thus the ammonium sulfate and NaCl calibrations will likely not be valid. While this calibration may

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be suitable for laboratory studies and certain ambient aerosol populations, it should be noted that the calibration will not be universally applicable.

Some commentary on precisely how different the internal plate temperatures are compared to the surface temperatures as determined by the supersaturation calibration would also be useful in this paper and should be included.

The appendix to this paper is particularly useful as it is not readily available in the literature.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 2151, 2006.

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