

Interactive comment on “Technical Note: Frenkel Halsey and Hill analysis of water on clay minerals: Toward closure between cloud condensation nuclei activity and water adsorption” by Courtney D. Hatch et al.

Anonymous Referee #2

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General Comments: Manuscript by Hatch et. al. focuses on improved fitting procedures to obtain better agreement between FHH parameters from water adsorption measurements and CNN-derived FHH parameters. Given the importance to the CNN activity and role of adsorbed water in atmospheric chemical and photochemical processes, the information discussed in this article has become vital, more than ever, to explain field and laboratory observations and extract reaction mechanisms. Authors present scientific results from an improved parameterization of adsorbed water using a direct measurement of monolayer water coverage, determined by the BET analy-

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sis of experimental water adsorption. This approach shows a significant reduction of the gap in the FHH parameters between water uptake and CNN activity. This study is also significant due to the fact that it highlights the others potential sources for the un-modelled variations. The knowledge presented in this work will be greatly useful for atmospheric studies, in particular for better understanding heterogeneous processes on mineral dust under humid conditions. Considering all the above facts, I recommend that this article is on Langmuir after addressing the following minor concerns.

Specific Comments: Can these calculations be applied to oxide mineral dusts? If so, will the assumptions have made for clay minerals applicable?

Technical Comments: Reference style is not consistent. P4, L2 and elsewhere.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-276>, 2019.

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