interactive comment on “technical note: estimating aerosol effects on cloud radiative forcing” by s. j. ghan

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the refined way to compute the aerosol-cloud radiative effect steve ghan proposes is a useful one and should be considered seriously by the modelling community. i believe, however, that some specifications and discussions are lacking in his current description.

1. “forcing” is a delicate term. i believe the forthcoming ipcc report includes an attempt to define a new terminology, or else the cited paper by lohmann et al. (atmos. chem. phys. 2010) has some discussion on the term. i understand the author defines forcing as difference in top-of-atmosphere net radiation between two simulations with prescribed climatological sea-surface temperature distributions, but this should be clarified.

2. the “clean” radiation computations involve no-aerosol atmospheres. for cloud droplet and ice crystal number concentrations, a “clean” equivalent is impossible. how are these computed in the “f_{clean}” computed?

3. the clear-sky water vapour contribution merits discussion (see, e.g., sohn et al., atmos. chem. phys. 2010).

interactive comment on atmos. chem. phys. discuss., 13, 18771, 2013.