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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Quantifying the range of the dust direct radiative effect due to source mineralogy uncertainty" *by* Longlei Li et al.

Anonymous Referee #1

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For indices of refraction of Corundum (Al2O3) from the UV to thermal-IR, please see Koike et al., Icarus, 114, 203-214, 1995. The imaginary refractive index at 0.4 microns is 0.043 and at 0.5 microns is 0.0382 and at 0.6 microns is 0.0367 from ISAS (Table A1). These values are ∼1/4th those for iron oxide (e.g., which is around 0.15 at 0.5 microns), thus definitely important. The authors are correct that it will depend on concentration and whether Al2O3 can be a surrogate for Al in a mixture. These are important issues to mention.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2020-547, 2020.