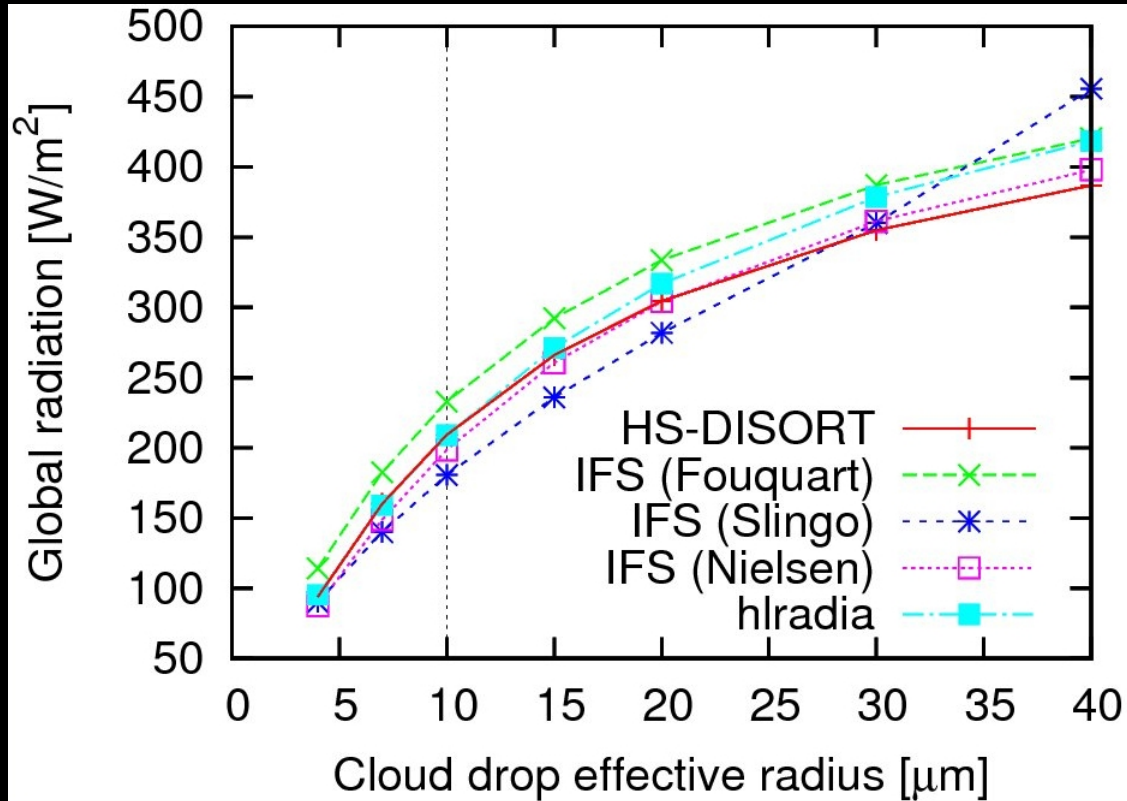
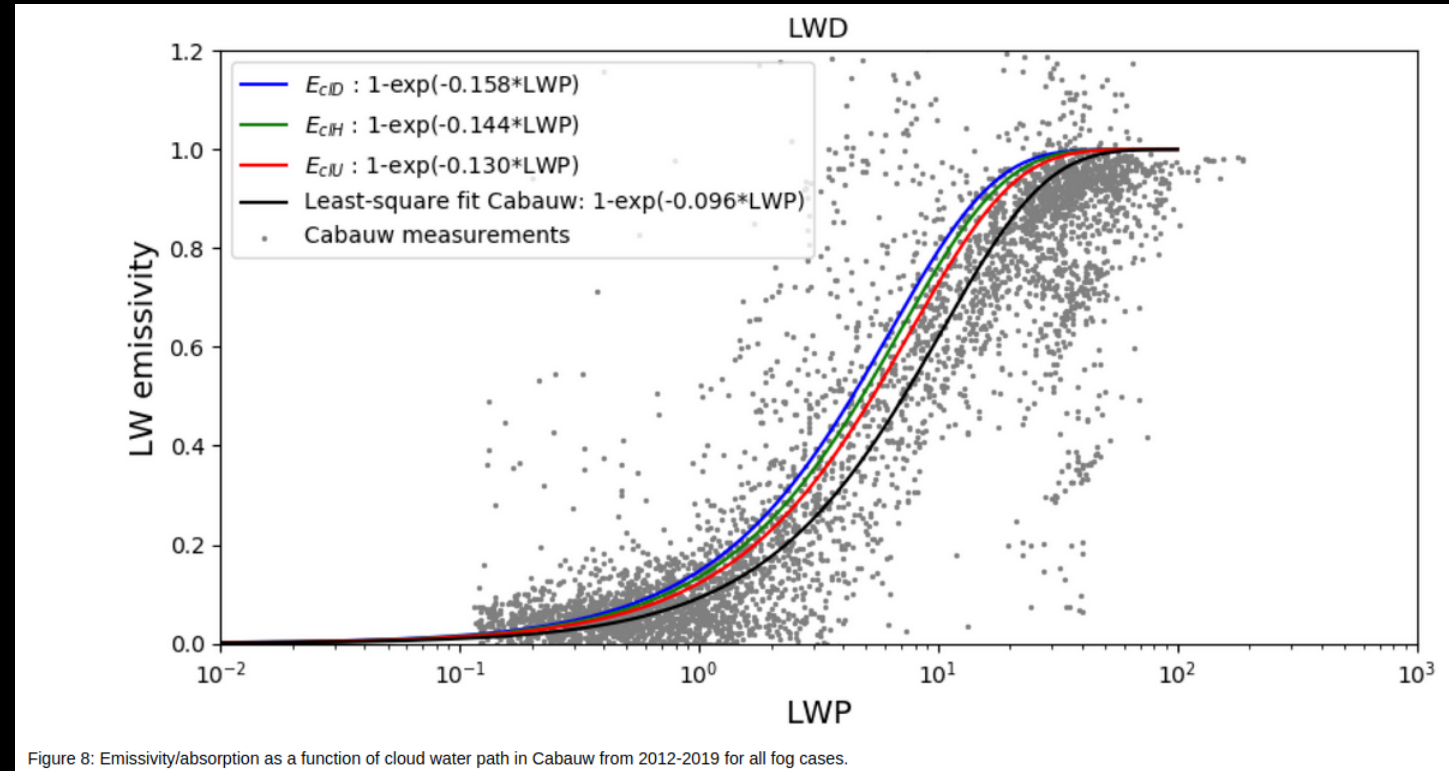


Why test the cloud liquid optical properties?

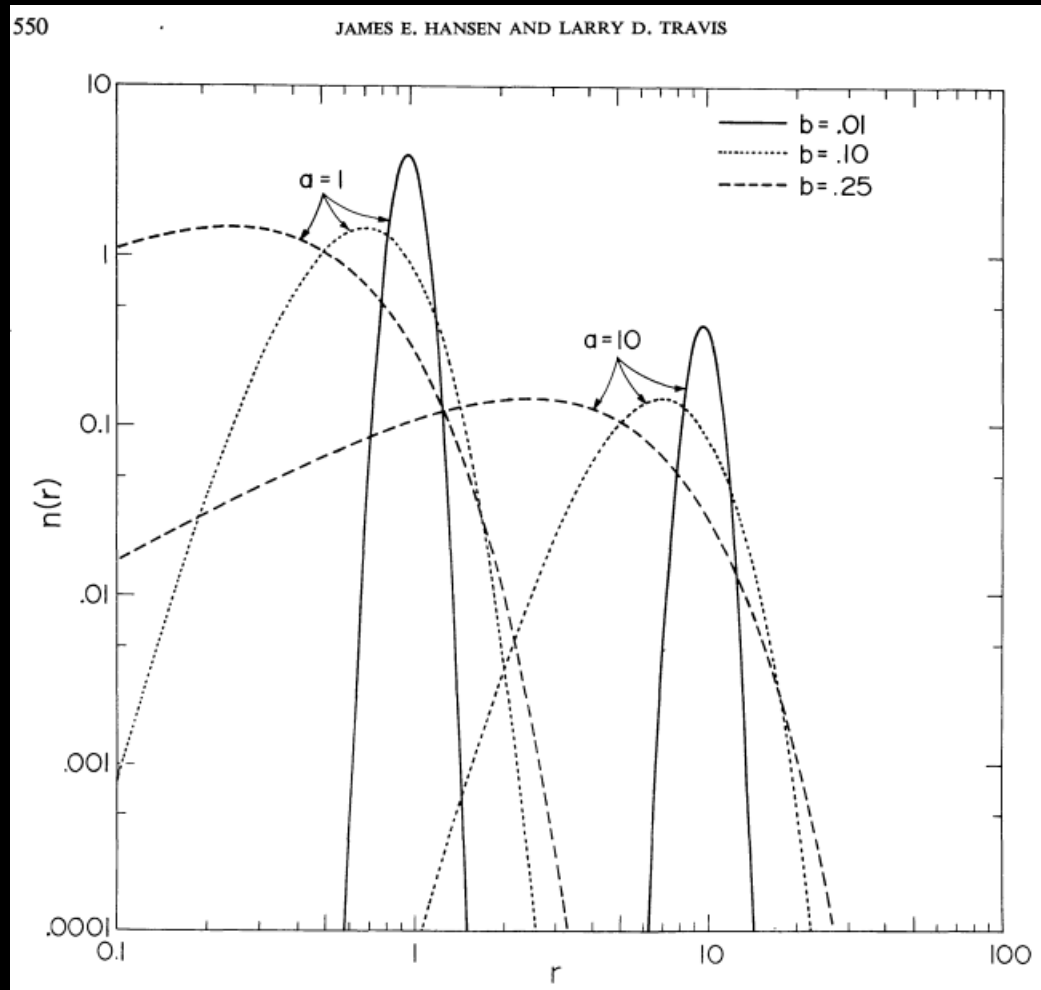


K. P. Nielsen et al. (2014)



T. Kettler et al. KNMI (pers. comm. 2020)

Cloud droplet size distributions (DSD)

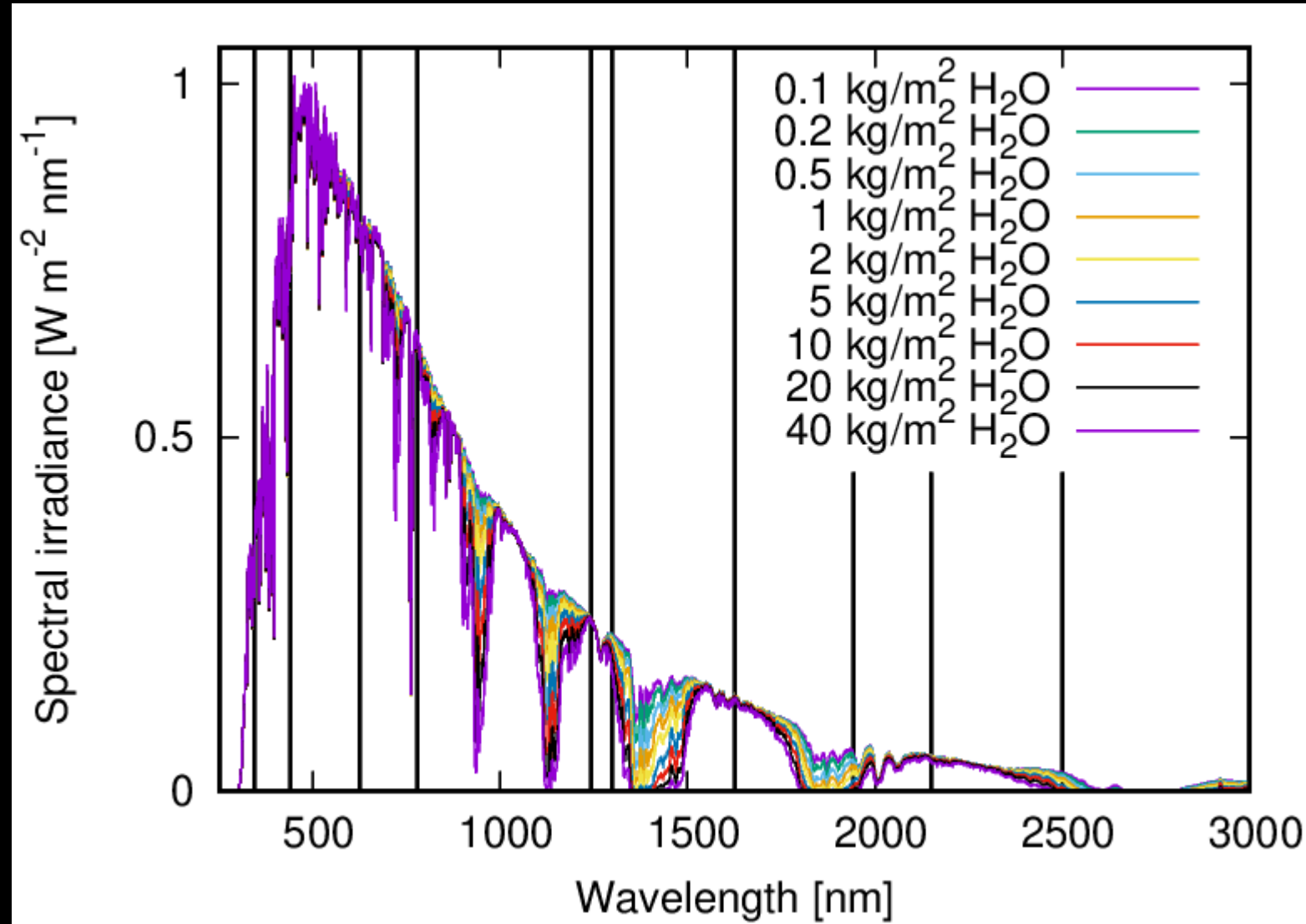


- It has been known for many years that DSDs matter for the cloud optical properties.
- Now, they are becoming available from more advantage cloud microphysics schemes.
- They should be used consistently in the radiation schemes.

a: Effective radius r_e . b: Distribution spread ν_e . Hansen and Travis (1974).

Ongoing Meteo France PhD project by Erfan Jahangir on testing the importance and introducing this effect.

Spectral effects



The “inherent” single scattering albedo per spectral band depends on the illuminating solar spectrum.