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Hi -

I am heading to a meeting on September 5th, and I am seeking document review for the poster that I will present. This will be a poster with no handouts, thus I beleive it can be approved on the basis of the abstract. I have included the abstract in this email, and attached forms 1330 and 2785.

Thanks for your time,

Annmarie Eldering
x44941

Abstract for GRC 2003:

Characterization of clouds and measurements from IR remote sensing measurements

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A number of high spectral resolution infrared instruments have been flown and will be flown in the near future, including ATMOS, MkIV, MIPAS, AIRS, and TES. These infrared measurements are valuable for the characterization of aerosols and clouds. In the visible, aerosol extinction features are closely tied to aerosol size and volume, whereas the infrared extinction is more strongly a function of aerosol composition and then size.

Stratospheric aerosol and cloud characterization has been demonstrated with ATMOS and MkIV solar occultation measurements. In the three years following the eruption of Mt. Pinatubo, profiles of the volume mixing ratio of stratospheric aerosol were obtained from ATMOS. Aircraft measurements made with the MkIV can not provide vertical profiles but the broad spectral coverage allows for retrieval of the effective radius of the aerosol. Recent work has shown that under high aerosol loading, the weight percent sulfuric acid of the aerosol can be retrieved from ATMOS measurements.

The remote sensing instruments that have recently been launched and will be launched in the near future are limb and nadir viewing thermal emission instruments, which means that the radiative transfer problem is a bit more complex and separating the aerosol and gas signatures is more difficult. Studies have also been conducted to look at the conditions under which aerosol and clouds can be characterized from these measurements. Simulations tell us that some cloud characterization parameters such as ice particle size can be inferred from the measurements. Examples drawn from the AIRS data set will be shown.

Simulations and sensitivity studies regarding dust and polar stratospheric clouds will also be presented. Under ideal conditions, high aerosol or cloud optical depths, relatively uniform distribution in the