

Eric Jensen

Title: Cirrus susceptibility to changes in ice nuclei: physical processes, model uncertainties, and measurement needs

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In this talk, I will begin by discussing the physical processes that govern the competition between heterogeneous and homogeneous ice nucleation in upper tropospheric cirrus clouds. Next, I will review the current knowledge of low-temperature ice nucleation from laboratory experiments and field measurements. I will then discuss the uncertainties and deficiencies in representations of cirrus processes in global models used to estimate the climate impacts of changes in cirrus clouds. Lastly, I will review the critical field measurements needed to advance our understanding of cirrus and their susceptibility to changes in aerosol properties.