



Cirrus cloud thinning climate engineering and the response of the East Asian Summer Monsoon

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Results will be presented from Earth System Model simulations of the climate engineering method of cirrus cloud thinning. This climate engineering method aims to cool temperatures as a response to seeding of high altitude ice clouds in order to deplete them. Hence more longwave radiation is allowed to escape to space. The ice crystal fall speed is perturbed as a simplified representation of the otherwise complex and computationally expensive micro-physics of the method. An octupling of the ice crystal fall speed at temperatures colder than 235K is found to be of the order of magnitude needed to offset the radiative forcing of a doubling of pre-industrial CO₂ concentrations. The resulting climatic effects are presented, including the response of temperatures, hydrological cycle, with a particular emphasis on the East Asian Summer Monsoon.