



Uncertainties in the radiative properties of cirrus in climate models

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In situ retrievals of cirrus ice crystals have shown discrepancies of 300% in the total number concentration and more than 100% in the total ice water content, probably linked to shattering and bouncing of particles at the instrument inlet and shroud. The calculated radiative properties of cirrus are affected by these uncertainties.

We estimate the cirrus radiative forcing dependence on to the shape of its size distribution and conclude that the uncertainties linked to shattering are smaller than other discrepancies in the particle size distribution shape not related to shattering.