



Immersion freezing by plant nanocellulose and plant phytolith particles

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Using a new microfluidics setup (WISDOM), we examined the immersion freezing abilities of two types of airborne particles from biogenic sources: Plant nano crystalline cellulose particles and plant phytoliths. Plant opal phytoliths (POP) form in tissues of living plants during their growth, and can be found in soils following plants decay and in biomass burning plumes. Several measurements have identified these micro-sized particles in the atmosphere, but their ice nucleation properties have not yet been studied. We will present the new WISDOM device and first results on the efficiency of these biogenic particles to act as ice nuclei in the atmosphere under mixed clouds conditions.