



An Outsized Climate Effect for Organic Peroxy Radical Chemistry

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The nucleation and growth of atmospheric particles from a few nanometers up to many tens of nanometers is a crucial source of cloud seeds, impacting cloud reflectivity and even lifetime and precipitation. As a result, this fundamental process gas to particle conversion plays a significant role in the climate system. In many regions, the critical growth rate is determined by condensation of organic vapors arising from the free radical photochemistry of biogenic hydrocarbons. I'll present three vignettes demonstrating the central role of previously dismissed organic peroxy radical chemistry in setting the mass growth rate of new particles to climate relevant sizes.