Special Issue

Ice Nucleation

Message from the Guest Editor

In-cloud ice particles have an enormous impact across all scales of atmospheric phenomena, from precipitation, radiative transfer, and electrification in clouds to heterogeneous chemistry, scavenging of trace gases, and dissemination of living organisms. Understanding the processes leading to ice formation in the atmosphere is crucial to formulate reliable multiscale models that are capable of predicting the change of climate systems in the perturbed environment. At the same time, the current advances in atomistic modeling and exploding development of the state-of-the-art microscopic probing techniques offer an exciting opportunity to deepen our understanding of ice nucleation in various atmospheric systems and conditions. With this Special Issue, we aim at surveying the latest achievements in ice nucleation research which is relevant to all natural atmospheric systems, covering topics ranging from field observations to laboratory studies, atomistic modeling, and multi-scale cloud modeling. Manuscripts investigating the evolution of ice crystals in the clouds, including ice crystal growth, sublimation, and interaction with supercooled water droplets, are especially welcome.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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