



Towards Understanding Physical and Chemical Characteristics of New Particle Formation around the Globe

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Message from the Guest Editor

Dear Colleagues,

Secondary aerosol particles are formed in the atmosphere either through vapour condensation onto pre-existing particles or in new particle formation (NPF). NPF is observed in many different environments, the onset of which is often defined by favourable conditions in the region. Particles formed through NPF can grow competing with larger aerosol particles for low-volatility vapours. This, in turn, changes particle number size distribution inherently impacting cloud condensation nuclei budget as well as air quality. However, the exact mechanisms and impacts of NPF remain unknown in many environments.

This Special Issue aims to gather studies on various aspects of atmospheric new particle formation, including but not limited to physical processes controlling atmospheric NPF, chemical pathways to molecular clustering and particle growth, sources and formation of precursor low-volatility vapours as well as potential impacts of NPF on clouds, radiative budget and air quality. Experimental studies both in the field and in the laboratory as well as theoretical and modelling papers are welcome.





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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!

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