



Chamber Studies of Atmospheric Chemistry

Guest Editor:

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Message from the Guest Editor

Our understanding of atmospheric oxidative chemistry has been derived largely from data obtained in laboratory chambers. A highlight of chamber studies over the last decade has been the investigation of secondary organic aerosol formation and the evolution from the multi-generational oxidation of volatile organic compounds under different chemical regimes such as highly-polluted urban environments and remote atmospheres. The interpretation of these chamber observations has provided a fundamental basis for predicting the temporal profiles and spatial distributions of atmospheric aerosols in air quality and global climate models.

Potential topics for research and review articles include, but are not limited to, design, characterization, and applications of novel chamber facilities; intercomparison studies among different chambers; instrument development for the measurement of gas- and particle-phase species; and fundamental gas-phase kinetics, aqueous-phase and heterogeneous reactions, aerosol chemistry, secondary organic aerosol formation pathways, and the development of explicit models for interpreting chamber data.





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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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