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Cloud Remote Sensing: Current Status and Perspective

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Deadline for manuscript submissions:
closed (29 March 2024)

Message from the Guest Editors

Clouds are composed of liquid water droplets, ice crystals or a mixture of the two. Clouds with mixtures of ice particles and cloud droplets also occur. Clouds are inherently inhomogeneous media with inhomogeneity both in the vertical and horizontal directions. Therefore, theoretical studies on radiation transport in clouds (e.g., clouds of various shapes) are performed using the 3D radiative transfer theory. Accounting for 3D effects and cloud vertical inhomogeneity is critical in modern cloud remote sensing.

This Special Issue is focused on the latest developments in cloud remote sensing. We therefore invite papers on the following areas:

- Ground-based cloud remote sensing;
- Satellite cloud remote sensing;
- Airborne cloud remote sensing;
- Remote sensing of clouds using optical and thermal infrared techniques;
- Microwave remote sensing of clouds;
- Multi-angular cloud polarimetry;
- Radiative transfer in clouds;
- Light scattering by ice crystals and mixed-phase clouds;
- Radiative properties of polluted and mixed phase clouds;
- Radiative properties of hurricanes.

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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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