



Remote Sensing of Free Tropospheric Aerosols

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Message from the Guest Editors

Dear Colleagues,

Typically, tropospheric aerosols are assumed to be situated in the boundary layer. However, recent studies, including observations from satellites and intensive short-term airborne field observations, have pointed toward the importance of aerosol distribution in the free troposphere. Aerosols aloft are not readily sampled in situ and present challenges for remote sensing but can contribute significantly to the total burden of aerosol in the atmosphere. This Special Issue of *Atmosphere* aims to contribute to the advance of knowledge of aerosols situated in the free troposphere. We encourage works which characterize aerosols aloft, including but not limited to the following aspects:

- Detection of aerosols aloft using remote sensing platforms, e.g., ground-based, airborne, balloon-sonde, and satellite remote sensing;
- Characterization of aerosol optical properties for aerosols aloft, e.g., single scattering albedo, phase functions, and angstrom exponents;
- Aerosol optical closure studies using aerosol chemical composition;
- Novel retrieval approaches from ground-based platforms, e.g., MAX-DOAS, LIDARS;

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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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