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Remote Sensing of Free Tropospheric Aerosols

Guest Editors:

Dr. Ivan Ortega
Atmospheric Chemistry Observations & Modeling Lab, National Center for Atmospheric Research, Boulder, CO 80305, USA

Dr. Theodore K. Koenig
1. Department of Chemistry, University of Colorado Boulder, Boulder, CO 80309, USA
2. Department of Chemistry, Cooperative Institute for Research in Environmental Sciences (CIRES), Boulder, CO, USA

Deadline for manuscript submissions:
closed (15 September 2020)

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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Editor-in-Chief

Prof. Dr. Ilias Kavouras
Environmental, Occupational, and Geospatial Health Sciences, CUNY School of Public Health, New York, NY 10027, USA

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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Contact Us

Atmosphere Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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atmosphere@mdpi.com
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