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Lidar Remote Sensing Techniques for Atmospheric Aerosols

Guest Editor:

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Deadline for manuscript submissions: closed (25 October 2020) Message from the Guest Editor

Aerosols have several effects on the Earth's radiation budget yet remain a significant uncertainty in predicting the future climate system. In addition to their impact on the Earth's climate system, aerosols from volcanic eruptions, wildfires, anthropogenic pollution events, and dust storms are hazardous to human health and transportation safety. Aerosol vertical distribution is essential to improving our understanding of (1) aerosol impacts on the climate system (aerosol-radiation interactions and aerosol-cloud interactions), (2) aerosol emission, transport, and deposition, and (3) the surface concentration of particulate matter (PM). Lidar vertical profile measurements from space-based platforms. aircraft, and ground networks provide the science community with the aerosol vertical structure that is necessary to complement passive aerosol retrievals and examine aerosol impacts on climate and air quality.









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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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