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New Insights in Atmospheric Water Vapor Retrieval

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Deadline for manuscript submissions:
closed (9 June 2023)

Message from the Guest Editors

Water vapor in the troposphere represents a mere fraction of the total atmospheric volume, but is strongly associated with climate change, atmospheric radiation, weather pattern, and hydrologic cycle. Accurate information on water vapor distribution not only leads to a better understanding of the various atmospheric processes, but also to enhanced natural hazard mitigation (e.g., floods and landslides).

We invite you to contribute to this Special Issue with original research and review articles on topics including, but not limited to:

- Development of water vapor retrievals based on global navigation satellite systems, remote sensing, radiosonde, microwave radiometer, photometer, and other observation systems;
- Development of water vapor tomography technique by advanced inversion algorithms, multi-sensor data assimilation, and model optimization;
- Studies presenting, interpreting and validating water vapor datasets and observations;
- Applications of water vapor datasets in spatiotemporal analysis, NWP model assimilation, climate change, extreme weather evolution, tropospheric wet delay correction for range measurements of space geodetic techniques, and so on.

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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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