Special Issue

Remote Sensing with Radar or Lidar for Multi-Scale Atmospheric Observation

Message from the Guest Editors

Atmospheric processes exhibit complex multi-scale characteristics and directly impact human production activities, ecological security, and sustainable development. However, traditional observation methods —such as ground-based in situ stations and passive satellite remote sensing—struggle to capture the spatiotemporal heterogeneity and interaction mechanisms of atmospheric processes across different scales. The rapid development of active remote sensing technologies that employ radar and lidar has revolutionized multi-scale atmospheric observation. Lidar, with its high spatial–temporal resolution and strong sensitivity to small particles, enables precise profiling of atmospheric parameters. Radar is effective in all-weather operation and long-distance detection, making it indispensable for monitoring precipitation systems, middle-to-upper tropospheric humidity, and synoptic-scale circulation. The integration of these two technologies overcomes the limitations of single-sensor observation, enabling seamless coverage from micro-scale particle detection to regional-scale atmospheric system monitoring.

Guest Editors

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Remote Sensing is now a prominent international journal of repute in the world of remote sensing and spatial sciences, as a pioneer and pathfinder in open access format. It has highly accomplished global remote sensing scientists on the editorial board and a dedicated team of associate editors. The journal emphasizes quality and novelty and has a rigorous peer-review process. It is now one of the top remote sensing journals with a significant Impact Factor, and a goal to become the best journal in remote sensing in the coming years. I strongly recommend *Remote Sensing* for your best research publications for a fast dissemination of your research.

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