



Low Level Windshear and Turbulence for Aviation Safety

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Message from the Guest Editors

Low-level windshear and turbulence can be hazardous to arriving and departing aircraft at airports. They may arise for several reasons, such as thunderstorms, terrain-disrupted airflow, sea/land breeze, low-level jets, building-induced airflow disturbance, wake vortex of the aircraft, etc. In recent years, there have been many developments in the alerting and even forecasting the occurrence of low-level windshear and turbulence. They notably include the use of remote sensing meteorological instruments, such as Doppler light detection and ranging (LIDAR), Doppler sonar, radar wind profilers, and X-band weather radar. On the forecasting side, the use of a super-high-resolution numerical weather prediction model has been explored, with a spatial resolution down to 50 m, to capture the terrain/building-induced airflow disturbances and wake vortex. This Special Issue would include articles describing state-of-the-art methodologies in the alerting and forecasting of low-level windshear and turbulence.





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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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