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Structure and Dynamics of Mesosphere and Lower Thermosphere

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Message from the Guest Editors

where the lower atmosphere extends to outer space. The upward propagation of gravity waves, tides, and planetary waves in this region extract energy during their amplification through wave–mean interaction. The wave breaking also deposits energy into the background. This makes the structure of the MLT atmosphere variable and deviates from its equilibrium state. With the help of TIMED and Aura satellite observations, as well as numerical data assimilation, our knowledge about the structure of the MLT region has expanded greatly during the past twenty years. However, many aspects of the MLT region are still mysterious compared to the lower atmosphere. Our Special Issue aims to improve the understanding on the structure of the mesosphere and lower thermosphere. We encourage contributions to topics including but not limited to:

Observations and assimilation results on MLT;
Wave activities in MLT;
Vertical and interhemispheric couplings in the MLT region;
Variations of MLT due to lower atmospheric forcing such as SSW, ENSO, and MJO;
Influence of solar and geomagnetic activities on MLT.

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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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