Special Issue

Lidar Remote Sensing Techniques for the Upper Troposphere and the Middle Atmosphere

Message from the Guest Editor

The upper troposphere and the middle atmosphere (stratosphere–mesosphere) are regions in which dynamic, radiative, and photochemical processes are closely coupled and where a high impact of global climate change is expected. Understanding the mechanisms involved requires observations that are resolved vertically and over time that passive spatial remote sensing does not provide. The lidar technique offers the possibility of obtaining such observations from ground stations or from space, whether for atmospheric composition (ozone, water vapor), aerosols, clouds, temperature, or wind. Ground-based lidar networks are valuable tools for climate studies and the validation of space instruments. This Special Issue calls for contributions covering the themes listed below: - Recent advances in lidar technologies allowing a better understanding of atmospheric processes; - New scientific results obtained from lidar observations alone or in synergy with other types of observations.

Guest Editor

Dr. Alain Hauchecorne

Laboratoire atmosphères, milieux, observations spatiales, Université Paris-Saclay, CNRS, 78280 Guyancourt, France

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Atmosphere
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atmosphere@mdpi.com

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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!

Editor-in-Chief

Dr. Daniele Contini
Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

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