# Special Issue

# Radiative Transfer Models of Atmospheric and Cloud Properties

### Message from the Guest Editor

Versatile state-of-the-art atmospheric radiative transfer models are of paramount importance in the research of the effect of atmospheric greenhouse gases, clouds, and aerosols in climate simulations. These radiative transfer models must make use of the latest available information on gaseous absorption properties as well as on the optical properties of cloud and aerosol particles. Numerical weather prediction and climate models require accurate and fast radiative transfer codes for the simulation of vertical profiles of atmospheric heating/cooling rates. Another area with ever increasing demand on the radiative transfer codes is the assimilation of satellite data with new missions like the polar-orbiting IASI-NG, and the geostationary MTG-IRS, to be launched in a couple of years. Future missions will further extend the range of the electromagnetic spectrum that is monitored from space. Studies that consider the importance of 3D effects, polarization, and cloud overlap, as well as schemes that can model these effects fast while remaining sufficiently accurate, are therefore also welcome.

### Guest Editor

Dr. Stephan Havemann
Met Office, Foundation and Weather Science, Exeter EX1 3PB, UK

### Deadline for manuscript submissions

closed (15 June 2020)

**Atmosphere**

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 4.6

mdpi.com/si/24719

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

mdpi.com/journal/atmosphere

# Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.5
CiteScore 4.6

mdpi.com/journal/atmosphere

# About the Journal

## 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

## Author Benefits

**Open Access:**

free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:**

indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, GeoRef, Inspec, CAPlus / SciFinder, Astrophysics Data System, and other databases.

**Journal Rank:**

CiteScore - Q2 (Environmental Science (miscellaneous))

MDPI