Special Issue

Quantification and Reduction of Uncertainties in Atmospheric Dispersion Simulations for Accidental Releases

Message from the Guest Editors

Atmospheric dispersion simulations are used in case of accidental releases in the atmosphere, to assess the possible environmental and health damages and propose adapted countermeasures. This Special Issue is devoted to uncertainty quantification within atmospheric dispersion simulations, especially for the purpose of predicting the consequences of accidental releases. This may include nuclear accidents (Tchernobyl, Fukushima), volcanic ash, or other natural or human hazards. All scales of interest are welcome, from local scale (rural or urban) to regional and continental. The topics of interest of this Special Issue include:

- Use of meteorological ensembles for dispersion models,
- methods to take into account source term uncertainties,
- uncertainty quantification (UQ) methods,
- local or global sensitivity analysis (SA) methods,
- inverse modelling methods for source reconstruction and/or localization,
- probabilistic indicators for ensemble evaluation with observations,
- use of probabilistic outputs for decision making in emergency situations.
- methods to reduce uncertainties in emergency situations

Guest Editors

Dr. Irène Korsakissok
IRSN Institut de Radioprotection et de Surete Nucleaire, 92260 Fontenay-aux-Roses, France

Dr. Susan J. Leadbetter
Met Office, FitzRoy Road, Exeter, Devon EX1 3PB, UK

Deadline for manuscript submissions

closed (18 October 2021)

Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.9

mdpi.com/si/75288

Atmosphere
Editorial Office
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 2.3
CiteScore 4.9

mdpi.com/journal/atmosphere

MDPI

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))