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Atmospheric Inversions to Quantify Emissions at Different Scales

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Deadline for manuscript submissions:
closed (30 December 2022)

Message from the Guest Editors

Dear Colleagues,

Atmospheric inversion techniques based on atmospheric greenhouse gas concentration measurements have been developed and used for the emission monitoring. Observations of atmospheric constituents and atmospheric transport models are essential elements of the development and application of most atmospheric inversion techniques. This Special Issue will be focused on original research and detailed review papers related to atmospheric inversion methods and related topics.

Relevant topics include, but are not limited to:

- Atmospheric inversions, data assimilation techniques and their applications to estimate emissions at local and regional scales.
- New measurement datasets/strategies for atmospheric inversions.
- Uncertainty quantification methods and analysis.
- Improved/new atmospheric dispersion models and new observational dispersion datasets.
- CFD modeling for atmospheric dispersion and inversions.
- Improved understanding of boundary layer parameters and their significance within atmospheric dispersion and inversion models.
- Public health concern and emergency impact assessment of CBR (chemical, biological and radiological) releases.

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Editor-in-Chief

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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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