

Special Issue

Shock Waves in the Atmosphere: Experimental and Computational Approaches for High-Energy Events

Message from the Guest Editor

This Special Issue aims to assemble contributions from multiple fields, including atmospheric science, applied physics, aerospace engineering, and related disciplines. The emphasis is on cross-cutting investigations and innovative methodologies that address the generation, propagation, and interaction of shock waves in the atmosphere. Submissions may address, but are not restricted to, the following broadly defined topics:

- Measurement and observational strategies
- Field campaigns and instrumentation for transient atmospheric events
- Laboratory-based experiments for shock characterization
- Emerging sensor networks and remote sensing of pressure waves
- Modeling and computational frameworks
- Numerical algorithms and simulations tailored to shock dynamics
- Data assimilation techniques for transient or multi-scale phenomena
- High-performance computing approaches to capture non-linear wave processes
- Atmospheric effects and multidisciplinary perspectives
- Infrasound analysis, including near- and far-field acoustic observations
- Broad hazard considerations related to energetic natural or anthropogenic sources

Guest Editor

Dr. Elizabeth A. Silber
Sandia National Laboratories, Albuquerque, NM 87123, USA

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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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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

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