Special Issue

Recent Advances in Photochemistry and Spectroscopy of Atmospheric Aerosols

Message from the Guest Editors

This Special Issue focuses on aerosol photochemistry and the photochemical oxidation of volatile organic compounds (VOCs), a key process leading to the formation of secondary organic aerosol (SOA) and brown carbon (BrC). SOA and BrC not only affect air quality but also have significant implications for climate change, due to their impact on radiative forcing. The issue seeks to address gaps in our understanding of these phenomena. Articles will focus on mechanisms of photochemical reactions in the atmosphere, including radical reactions and the role of excited states in sensitizing these reactions. In addition, research on the spectroscopic characteristics and optical properties of aerosol components will provide insights into their chemical composition and the changes they undergo due to photochemical aging. Various spectroscopic techniques will be used to identify and quantify the molecular components of SOA and BrC. By understanding the photochemistry and spectroscopy of aerosols, this Special Issue aims to elucidate their broader environmental impacts, particularly on air quality and climate.

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Deadline for manuscript submissions

12 January 2026

Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.9

mdpi.com/si/212318

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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

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