

Announcement of a Special Issue in the journal of *Advances in Space Research* on

## **Recent developments in equatorial, low- and mid-latitude mesosphere, thermosphere and ionosphere studies**

Papers are invited for a special topical issue of *Advances in Space Research* (ASR) entitled “*Recent developments in equatorial, low- and mid-latitude mesosphere, thermosphere and ionosphere studies*”.

Dynamic processes taking place in the mesosphere, thermosphere and ionosphere (MTI) are always intriguing to the scientific community. Ever increasing ground and space-based experiments are providing a huge amount of data, and unfolding new avenues to employ advanced Artificial Intelligence (AI) and Machine Learning (ML) techniques to understand and simulate various physical processes taking place in the MTI region.

This special issue is intended to report the recent developments in the field of equatorial, low- and mid-latitude mesosphere, thermosphere and ionosphere from observational (ground-based and space-borne), theoretical and simulation studies. Submissions are open to all scientists who have an appropriate scientific paper related to various aspects in this area that include: mesosphere and low-thermosphere region; the response of the thermosphere-ionosphere system to forcing from above and below; equatorial electrodynamic processes; coupling between mid-, low- and equatorial latitude regions; space weather impacts; magnetosphere-ionosphere coupling; ionospheric response to sudden stratospheric warmings; ionospheric irregularities and scintillations; latitudinal and/or longitudinal variability; ionosphere F-layer stratification; data-assimilation studies; modelling through AI/ML; advanced space and ground-based experiments; ionospheric tomography. Papers related to the response of the upper atmosphere during recent superstorms of May and October 2024 as well as papers presented at the C1.1 session of COSPAR 2024 are especially encouraged.

Papers must be submitted electronically to <https://www.editorialmanager.com/aisr/>. To ensure that all manuscripts are correctly identified for inclusion into the special issue, **authors must select “SI: MTI: New Developments”** when they reach the "Article Type" step in the submission process.

Submitted papers must be written in English and should include the full affiliation and postal addresses for all authors. Only full-length papers will be considered for publication, subject to peer review by a minimum of two reviewers. There are no page limits although the length of the paper should be appropriate for the material being presented.

**The deadline for submissions is 31 May 2025.**

Papers will be published electronically as soon as they are accepted. All articles will be typeset at no cost to the authors unless they want to publish an open access paper; there is also a nominal charge for printing color figures although there is no charge for color figures on the electronic version.

Dr. Venkatesh Kavutarapu (venkateshk@prl.res.in) and Dr. Michael Pezzopane (michael.pezzopane@ingv.it) are the Guest Editors for this special issue. Questions can be directed to both of them or to the Co-Editor for Special Issues, Dr. Peggy Ann Shea (sssrc@msn.com).

The general format for submission of papers and instructions for authors can be found on the *ASR* Elsevier web site at <https://www.sciencedirect.com/journal/advances-in-space-research/publish/guide-for-authors>