CONTEMPORARY SPECTRAL GRAPH THEORY

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DESCRIPTION

Spectral graph theory is a striking theory that studies the properties of a graph in relationship to the characteristic polynomial, eigenvalues and eigenvectors of matrices associated with the graph, such as the adjacency matrix, the Laplacian matrix, the signless Laplacian matrix or the distance matrix. This theory emerged in the 1950s and 1960s. Over the decades it has considered not only simple undirected graphs but also their generalizations such as multigraphs, directed graphs, weighted graphs or hypergraphs. In the recent years, spectra of signed graphs and gain graphs have attracted a great deal of attention. Besides graph theoretic research, another major source is the research in a wide branch of applications in chemistry, physics, biology, electrical engineering, social sciences, computer sciences, information theory and other disciplines.

This thematic special issue is devoted to the publication of original contributions focusing on the spectra of graphs or their generalizations, along with the most recent applications. Contributions to the Special Issue may address (but are not limited) to the following aspects:

- ▶ relations between spectra of graphs (or their generalizations) and their structural properties in the most general shape,
- ▶ bounds for particular eigenvalues,
- ▶ spectra of particular types of graph,
- ▶ relations with block designs,
- ▶ particular eigenvalues of graphs,
- ▶ cospectrality of graphs,
- ▶ graph products and their eigenvalues,
- ▶ graphs with a comparatively small number of eigenvalues,
- ▶ graphs with particular spectral properties,
- ▶ applications,
- ▶ characteristic polynomials.

Contributors are requested to submit their manuscripts complying the general scope of the special issue. Each manuscript will undergo the standard peer-review to be considered for acceptance. Notification of acceptance will be communicated as we progress with the review process.

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HOW TO SUBMIT

Before submission authors should carefully read the Instructions for Authors.

Manuscripts can be written in TeX, LaTeX (strongly recommended) - the journal's LATEX template. Please note that we do not accept papers in Plain TEX format. Text files can be also submitted as standard DOCUMENT (.DOC) which is acceptable if the submission in LATEX is not possible. For an initial submission, the authors are strongly advised to upload their entire manuscript, including tables and figures, as a single PDF file.

All submissions to the Special Issue must be made electronically via the online submission system Editorial Manager: https://www.editorialmanager.com/spma.

All manuscripts will undergo the standard peer-review process (single-blind, at least two independent reviewers). When entering your submission via the online submission system please choose the option "Special Issue on Contemporary Spectral Graph Theory".

Submission of a manuscript implies that the work described has not been published before and is not under consideration for publication anywhere else.

The deadline for submissions is **November 30th, 2021**, but individual papers will be reviewed and published online on an ongoing basis.

We are looking forward to your submission!

In case of any further questions please contact:

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