

Spectral radius of graphs / Dragan Stevanovic

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20427720&lokasi=lokal>

Abstrak

Spectral radius of graphs provides a thorough overview of important results on the spectral radius of adjacency matrix of graphs that have appeared in the literature in the preceding ten years, most of them with proofs, and including some previously unpublished results of the author. The primer begins with a brief classical review, in order to provide the reader with a foundation for the subsequent chapters. Topics covered include spectral decomposition, the Perron-Frobenius theorem, the Rayleigh quotient, the Weyl inequalities, and the Interlacing theorem. From this introduction, the book delves deeper into the properties of the principal eigenvector; a critical subject as many of the results on the spectral radius of graphs rely on the properties of the principal eigenvector for their proofs. A following chapter surveys spectral radius of special graphs, covering multipartite graphs, non-regular graphs, planar graphs, threshold graphs, and others. Finally, the work explores results on the structure of graphs having extreme spectral radius in classes of graphs defined by fixing the value of a particular, integer-valued graph invariant, such as: the diameter, the radius, the domination number, the matching number, the clique number, the independence number, the chromatic number or the sequence of vertex degrees.