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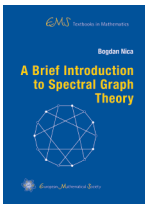
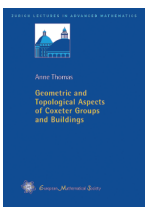


A Brief Introduction to Spectral Graph Theory

Bogdan Nica, *McGill University, Montreal, Canada*

Spectral graph theory starts by associating matrices to graphs—notably, the adjacency matrix and the Laplacian matrix. The general theme is then, first, to compute or estimate the eigenvalues of such matrices, and, second, to relate the eigenvalues to structural properties of graphs. As it turns out, the spectral perspective is a powerful tool. Some of its loveliest applications concern facts that are, in principle, purely graph theoretic or combinatorial. This text is an introduction to spectral graph theory, but it could also be seen as an invitation to algebraic graph theory.

EMS Textbooks in Mathematics, Volume 21; 2018; 168 pages; Hardcover; ISBN: 978-3-03719-188-0; List US$48; AMS members US$38.40; Order code EMSTEXT/21



Geometric and Topological Aspects of Coxeter Groups and Buildings

Anne Thomas, *University of Sydney, Australia*

Coxeter groups are groups generated by reflections. They appear throughout mathematics. Tits developed the general theory of Coxeter groups in order to develop the theory of buildings. Buildings have interrelated algebraic, combinatorial and geometric structures and are powerful tools for understanding the groups which act on them. These notes focus on the geometry and topology of Coxeter groups and buildings, especially nonspherical cases. The emphasis is on geometric intuition, and there are many examples and illustrations.

Zurich Lectures in Advanced Mathematics, Volume 24; 2018; 160 pages; Softcover; ISBN: 978-3-03719-189-7; List US$39; AMS members US$31.20; Order code EMSZLEC/24

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