

Random matrices arise from, and have important applications to, number theory, probability, combinatorics, representation theory, quantum mechanics, solid-state physics, quantum field theory, quantum gravity, and many other areas of physics and mathematics.

This volume of surveys and research results, based largely on lectures given at the Spring 1999 MSRI program of the same name, covers broad areas such as topologic and combinatorial aspects of random matrix theory; scaling limits, universalities, and phase transitions in matrix models; universalities for random polynomials; and applications to integrable systems. Its stress on the interaction between physics and mathematics will make it a welcome addition to the shelves of graduate students and researchers in both fields, as will its expository emphasis.

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