

Spectral Problems in Geometry and Arithmetic (Paperback)

By NSF-CBMS Conference on Spectral Problems in Geometry and Arithmetic (1997 : University of Iowa)

American Mathematical Society, United States, 1999. Paperback. Condition: New. Language: English . Brand New Book. This work covers the proceedings of the NSF-CBMS Conference on Spectral Problems in Geometry and Arithmetic held at the University of Iowa. The principal speaker was Peter Sarnak, who has been a central contributor to developments in this field. The volume approaches the topic from the geometric, physical, and number theoretic points of view. The remarkable new connections among seemingly disparate mathematical and scientific disciplines have surprised even veterans of the physical mathematics renaissance forged by gauge theory in the 1970s. Numerical experiments show that the local spacing between zeros of the Riemann zeta function is modelled by spectral phenomena: the eigenvalue distributions of random matrix theory, in particular the Gaussian unitary ensemble (GUE).Related phenomena are from the point of view of differential geometry and global harmonic analysis. Elliptic operators on manifolds have (through zeta function regularization) functional determinants, which are related to functional integrals in quantum theory. The search for critical points of this determinant brings about extremely subtle and delicate sharp inequalities of exponential type. This indicates that zeta functions are spectral objects - and even physical objects. This volume demonstrates that zeta...



Reviews

This book is definitely not simple to begin on studying but quite fun to see. I actually have read and that i am sure that i will gonna read through yet again once again in the foreseeable future. It is extremely difficult to leave it before concluding, once you begin to read the book. -- Brennan Koelpin

Comprehensive guide! Its this type of very good read through. It is actually writter in simple words and phrases rather than difficult to understand. It is extremely difficult to leave it before concluding, once you begin to read the book. -- Bernie Mante PhD