

Level Statistics of Eigenvalues for 1D Random Schrödinger Operators

Shinichi KOTANI *KwanseiGakuin University and Osaka University, Japan*, E-mail: skotani@outlook.com
Fumihiko Nakano *Gakushuin University, Japan*

KEY WORDS: Schrödinger operator, eigenvalue, level statistics

MATHEMATICAL SUBJECT CLASSIFICATION: 82B44, 60B20

Abstract: We consider the limit distributions of level statistics for eigenvalues of 1D Schrödinger operators with random decaying potentials restricted on finite intervals when the intervals expand to the whole space. The results change according as the decaying order of the potentials change.

References

- [1] S. Kotani & N. Ushiroya (1988). One-dimensional Schrödinger operators with random decaying potentials, *Commun. Math. Phys.*, **115**, 247–266.
- [2] S. Kotani & F. Nakano (2014). Level statistics for the one-dimensional Schrödinger operator with random decaying potentials, *Interdisciplinary Mathematical Sciences*, **17**, 343–373.
- [3] R. Alez & L. Dumaz (2014). From sine kernel to Poisson statistics, *Elec. J. Prob.*, **19**, 1–25.