



Kolloquium des Fachbereichs Mathematik

Es spricht am Montag, 11. November 2024 um 14:00 Uhr

Professor Dr. Grigori Rozenblioum, (Chalmers University of Technology, Sweden)

zum Thema: "Eigenvalues of singular measures and noncommutative integration"

<u>Abstract</u>

The Noncommutative Geometry approach to integration consists in defining integral of a function, without using the integration and measure theory. Namely, with a measure and a function, one associates an operator, whose spectral characteristics determine the integral of this function against this measure. Such approach was realized by A.Connes in early 1980-s, for the integration with respect to the Lebesgue measure in the Euclidean space, and, being extended to noncommutative algebras, was widely used in Mathematics and Physics. In the talk we explain how this approach to integration extends to some classes of singular measures. Technically, our results are based upon a recent progress in the spectral theory of potential type operators involving singular measures.

Literature (for Listeners, it is strongly recommended to browse the Introductions before the lecture)

G. Rozenblum, E. Shargorodsky, Eigenvalue estimates and asymptotics for weighted pseudodifferential operators with singular measures in the critical case. Partial differential equations, spectral theory, and mathematical physics—the Ari Laptev anniversary volume, 331–354, EMS Ser. Congr. Rep., EMS Press, Berlin, [2021], arXiv:2011.14877 G. Rozenblum, Eigenvalues of singular measures and Connes' noncommutative integration. J. Spectr. Theory 12 (2022), no. 1, 259–300. arXiv:2103.02067

Der Vortrag findet im Sitzungssaal 8.122 der Fakultät Mathematik und Physik, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen statt.

Interessenten sind herzlich eingeladen!

Die Dozentinnen und Dozenten des Fachbereichs Mathematik