basque center for applied mathematics

Working Seminar
MP-Mathematical Physics (QM-Quantum Mechanics)

April 10, 2017, 10:00-11:00

Nelson Javier BUITRAGO AZA

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LARGE DEVIATIONS PRINCIPLES FOR THE CONDUCTIVITY OF FREE FERMIONS IN DISORDERED MEDIA

We prove a large deviation upper bound for conductivity of noninteracting fermion systems in presence of disorder on d-dimensional infinite systems. We use the standard CAR C^*-algebra approach as well as, the Akcoglu-Krengel ergodic theorem and Gärtner-Ellis generating function for the underlying fermionic system. The result permits to obtain the fast convergence of the family of microscopic AC-conductivity measures describing Ohm law at atomic scales.

Joint work with J.-B. Bru and W. de Siqueira Pedra.

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EXCELENCIA SEVERO OCHOA

matematika mugaz bestalde