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PLUS+ TRAINING AND DEVELOPMENT PROGRAM: Four Assorted Quantum Pieces

DR. KAROL ?YCZKOWSKI

April 27, 2021
10:00 to 12:00
Online (Zoom)

Talk 2. Quantum chaos for open systems: Universal spectra of random Lindblad operators
The spectrum of generic superoperators, corresponding to random stochastic operations, displays a universal behaviour: it contains the leading eigenvalue ?1= 1, while all other eigenvalues are restricted to the disk of radius R<1. In the case of generic dynamics in continuous time, we introduce an ensemble of random Lindblad operators, demonstrate its spectral features including the lemon-like shape of the spectrum in the complex plane, and explain them with a non-hermitian random matrix model [2]. We show how such spectra are modified due to superdecoherence, which leads to Kolmogorov operators, which generate Markovian evolution in the simplex of classical probability vectors. ?

[2] J. Czartowski, D. Goyeneche, M. Grassl and K. ?yczkowski, Iso-entangled m

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tually unbiased bases, symmetric quantum measurements

Due to recommendations in place to contribute containing the spreading of COVID-19, th Theory Lectures will be carried out remotely via Zoom. In case you want to receive n invitation to attend the online session, you can send an email t[A]lba.Berenguer@icfo.eu

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