



Quantum Efficiency Seminar und Colloquium

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Efficient transport and symmetries in models of Light Harvesting Systems

Recent experimental results suggest the existence of quantum coherence and efficient transport in Light Harvesting Systems. Particularly motivated by results on the FMO complex we study exciton transport in random lattices with long range dipolar interactions. We show that some of these networks are consistent with efficient transport.

Moreover, we present evidence that the statistically relevant Hamiltonians associated with the efficient transport are centro-symmetric. We compare our results with numerical tests on realistic Hamiltonians for Light Harvesting systems and present a finite size scaling analysis of the model. We outlined some preliminary implications of our results in Biology and in Quantum Communications.

Date: Tuesday, January 10th, 2011 14:15 pm
Location: Lecture Hall 1, Hermann-Herder-Str. 3, Freiburg

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