Seminar/Talk

Spectral gaps in quantum spin systems

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Quantum spin systems are many-body models which are of interest in modern physics and at the same time amenable to rigorous mathematical analysis. A central question about a quantum spin system is whether its Hamiltonian operator exhibits a spectral gap above the ground state. The existence of a spectral gap has far-reaching consequences for the low-energy physics and the ground state complexity. In this talk, we survey recent progress on deriving spectral gaps for frustration-free quantum spin systems in dimensions greater than 1, e.g., in antiferromagnetic models of Affleck-Kennedy-Lieb-Tasaki (AKLT).

Monday, January 27, 2020 10:00am - 11:00am
Mondi Seminar Room 2, Central Building

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