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UJJWAL SEN 'Resonating Valence Bonds and a Quantum Information Perspective'

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June 13, 2013

Seminar, June 13, 2013, 14:30. Blue Lecture Room

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Harish-Chandra Research Institute - Allahabad, INDIA

Resonating valence bond (RVB) states appear in a variety of physical phenomena. We provide an exact analytical method, the density matrix recusrsion method, to investigate their properties, in particular, their multipartite entanglement. We show that while genuine multi-partite entanglement decreases with increasing system size for the even-legged ladder RVB states, it does the opposite for odd-legged ones. Furthermore, we use this iterative analytical method to calculate the multisite entanglement of RVB states on finite-sized lattices, which, through finite-size scaling, enables us to obtain the estimate of the multisite entanglement of the infinite square lattice.

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Hosted by Prof. Maciej Lewenstein and Antonio Acin