



SFB/TRR 21 - Colloquium

25. Mai 2012, Stuttgart

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Multi-component Bosons on Optical Lattices

I will discuss the properties of multi-spin bosonic systems loaded in optical lattices. I will first present the spin-1 system and mention how it can be made into an effective model of spin-1/2 bosons. This system is then examined with mean field and Quantum Monte Carlo to study its phase transitions and map its phase diagram both in the ground state and at finite temperature. Connections will be made with other systems of current theoretical and experimental interest.

25. Mai 2012, 14:00 Uhr

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