

BOSE-HUBBARD MODELS WITH ON-SITE AND NEAREST-NEIGHBOR INTERACTIONS: EXACTLY SOLVABLE CASE

Friday, 15 July 2022 12:10 (20 minutes)

We study the discrete spectrum of the two-particle Schrodinger operator depending on the quasi-momentum associated to the Bose-Hubbard Hamiltonian of a system of two identical bosons interacting on one site and nearest-neighbor sites in the two-dimensional lattice with arbitrary interaction magnitudes. We completely describe the spectrum of Schrodinger operator with zero quasi-momentum and establish the optimal lower bound for the number of eigenvalues of Schrodinger operator outside its essential spectrum for all non-zero values of quasi-momentum.

The speaker is a student or young scientist

No

Section

1. Nuclear structure: theory and experiment

Primary author: LAKAEV, Saidakhmat

Presenter: LAKAEV, Saidakhmat

Session Classification: Nuclear structure: theory and experiment