



*The Abdus Salam*  
**International Centre for Theoretical Physics**



Conference on Research Frontiers in Ultra-Cold Atoms  
ICTP, Trieste, 4 - 8 May 2009

## **BEYOND THE BOSE-HUBBARD MODEL**

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### Abstract:

I address the following assumptions which are typically made when discussing Bosons trapped in optical lattices: (1) interactions can be ignored during time-of-flight expansion, (2) the standard Bose-Hubbard model describes such experiments, and (3) homogeneous RF spectra yield unimodal line-shapes. Focussing on experimental observables, I show when, and how, each of these assumptions break down.