

Abstract Submitted
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Filling the Bose sea: clustered states and excitations EDDY ARDONNE, RINAT KEDEM, MICHAEL STONE, University of Illinois, Urbana Champaign — We explore the structure of clustered quantum states, which might be realized in ‘droplets’ of rapidly rotating Bose Einstein condensates. We explore the underlying algebraic structure (which is that of the affine Lie algebra $su(2)_k$) and count the dimension of the space of symmetric polynomials which have the clustering property. Upon increasing the size of the droplet, the partition function of the droplet becomes a character of the underlying algebra $su(2)_k$, confirming that the system can be described by an $su(2)$ Chern-Simons theory.

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