

Abstract Submitted
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Bosons under an artificial staggered magnetic field in an optical ladder MIN-CHUL CHA, IN-HO JEON, TAE-YANG AN, Department of Applied Physics, Hanyang University, Ansan, Gyunggi-do, 426-791 Korea, CCMPL TEAM — We calculate the ground state properties of cold bosons in an frustrated optical ladder due to an artificial staggered magnetic field. By investigating the momentum distribution of bosons via a Lanczos diagonalization method, we find the signature of the transition from the Meissner to vortex states as a function of the staggering strength of the field. Various states with different frustrations are discussed.

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