

Abstract Submitted
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Quantum Hall plateau-plateau transition probed by magnon quantum Hall insulator BAOLONG XU, School of Physics, Peking University, TOMI OHTSUKI, Department of Physics, Sophia University, RUIYCHI SHINDOU, School of Physics, Peking University — Based on a generalization of quantum Hall physics to quasi-particle boson system, we introduce a magnetic superlattice structure in the dipolar regime whose lowest gapped magnon bands mimic magnon quantum Hall insulator in strong out-of-plane magnetic fields. By calculating two-terminal conductance and localization length, we characterize the critical nature of the localization-delocalization transition in the magnon quantum Hall insulator. Especially, we show that the calculated conductance distribution at the ‘plateau-plateau’ transition in our system exhibits essentially the same distribution as that in the critical point of the Chalker-Corrington network model, demonstrating the ‘universality’ of the conductance distribution at the quantum Hall critical point beyond Fermion system.

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