

Abstract Submitted
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Unconstrained Chern-Simons theory for the geometrically frustrated spin compound $\text{SrCu}_2(\text{BO}_3)_2$ CRISTIAN BATISTA, PINAKI SENGUPTA, LANL, SUCHITRA SEBASTIAN, Univ. of Cambridge, NEIL HARRISON, LANL — We show that an unconstrained Chern-Simons theory – where the local densities are determined in a self-consistent manner – correctly reproduces the sequence of magnetization plateaus recently observed in the geometrically frustrated spin compound $\text{SrCu}_2(\text{BO}_3)_2$ in an external magnetic field. The theory predicts that at the plateaus, the triplets are arranged in stripe patterns which is consistent with NMR experiments at and close to the $1/8$ plateau.

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