

Abstract Submitted
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Herbertsmithite:

a slightly less than ideal kagomé antiferromagnet¹ YUAN WAN, ZHIHAO HAO, OLEG TCHERNYSHYOV, Johns Hopkins University — Herbertsmithite, one of the best realizations of the Heisenberg antiferromagnet on kagomé, shows no signs of magnetic order down to the lowest accessible temperatures and likely possesses a quantum-disordered ground state. A recent site-specific X-ray diffraction experiment [1] shows deviations from the ideal model, most notably in the form of excess copper spins residing outside of kagomé planes. We study the influence of these impurities on the magnetic properties of herbertsmithite, focusing on locally induced Jahn-Teller distortions in kagomé planes and on exchange interactions between the excess spins.

[1] Danna E. Freedman *et al*, J. Am. Chem. Soc. **132**, 16185 (2010).

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