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Low-temperature studies of a 2D Quantum Heisenberg Antiferromagnet CHRISTOPHER LANDEE, FAN XIAO, Department of Physics, Clark University, MARK TURNBULL, Department of Chemistry, Clark University, JUAN BARTOLOMÉ, Instituto de Ciencia de Materiales de Aragón, CSIC-Universidad de Zaragoza — A recent inelastic neutron scattering experiment of a 2D Quantum Heisenberg Antiferromagnet (2DQHAF) in an applied field [1] revealed novel features in the energy spectrum but the field was limited to <0.3 H_{SAT} due to the exchange strength (J = 17.5 K) of the material under study. $(Quinolinium)_2CuBr_4{\cdot}2H_2O$ is known [2] to be a molecular-based version of a strongly 2D QHAF with a significantly smaller exchange strength of 6.2 K and a saturation field of 15 T. We report the low-temperature properties (T < 1.8 K) of $(Quinolinium)_2CuBr_4{\cdot}2H_2O$ and discuss its applicability for further investigations.

[1] N. Tsyrulin, T. Pardina, R. R. P. Singh et al, *Phys. Rev. Lett.* **102**, 197201: 1-4 (2009).
[2] R. T. Butcher, M. M. Turnbull, C. P. Landee et al, *Inorg. Chem.* **49**, 427-434 (2010).

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