

Abstract Submitted  
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**Quantum stabilization of 1/3 magnetization plateau in Cs<sub>2</sub>CuCl<sub>4</sub>.**  
OLEG STARYKH, University of Utah, JASON ALICEA, California Institute of Technology, ANDREY CHUBUKOV, University of Wisconsin — We consider the phase diagram of a spatially anisotropic 2D triangular antiferromagnet in a magnetic field. Classically, the ground state is umbrella-like for all fields, but we show that the quantum phase diagram is much richer and contains a 1/3 magnetization plateau, two commensurate planar states, two incommensurate chiral umbrella phases, and, possibly, a spin density wave state separating the two chiral phases. Our analysis sheds light on several recent experimental findings for the spin-1/2 system Cs<sub>2</sub>CuCl<sub>4</sub>.

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