

Abstract Submitted
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High-temperature fractional quantum Hall states EVELYN TANG, XIAO-GANG WEN, Massachusetts Institute of Technology — Using a suitable combination of geometric frustration, ferromagnetism, and spin-orbit coupling in a hopping model on the kagome lattice, we obtain a flat band with nonzero Chern number. Partial filling of this band could give rise to the fractional quantum Hall effect in this system which, when considering realistic parameters, would persist at room temperature. Possible material realizations that indicate new directions for exploration and synthesis are discussed.

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