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Fractional Quantum Hall Hierarchy and the Second Landau Level
PARSA BONDERSON, Microsoft Station Q, J.K. SLINGERLAND, Dublin Institute for Advanced Studies — We generalize the Haldane-Halperin hierarchy picture to apply to non-Abelian fractional quantum Hall states, and propose trial wave functions to describe the observed Hall conductance plateaus in the second Landau level. These hierarchy states are constructed over the Moore-Read state, the expected description of the $\nu = 5/2$ plateau, and thus all have electron pairing in the ground state and an excitation spectrum that includes non-Abelian anyons of the Ising model σ-vortex type.

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