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Coupled wire construction of chiral spin liquids[1] RONNY THOMALE, Univ of Wuerzburg, TOBIAS MENG, TU Dresden, TITUS NEUPERT, PCTS, Princeton University, MARTIN GREITER, Univ of Wuerzburg — We develop a coupled wire construction of chiral spin liquids. The starting point are individual wires of electrons in the Mott regime that are subject to a Zeeman field and Rashba spin-orbit coupling. Suitable spin-flip couplings between the wires yield an Abelian chiral spin liquid state which supports spinon excitations above a bulk gap, and chiral edge states. The approach generalizes to non-Abelian chiral spin liquids at level k with parafermionic edge states.

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