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Theory of SU(2) invariant spin liquids on the triangular lattice with spinful Majorana excitations RUDRO BISWAS, LIANG FU, CHRIS LAUMANN, SUBIR SACHDEV, Harvard — We present a theory of SU(2) invariant spin liquids on the 2D spin 1/2 triangular lattice described by a parton representation of the spin in terms of spin-1 Majorana particles. These spin liquids break time reversal symmetry and generically possess a novel Fermi surface consisting of three lines intersecting at $k = 0$ as well as an unconventional dynamic critical exponent $z = 3$. We also present calculations for observable quantities and discuss possible connections to recent experiments involving spin 1/2 Heisenberg triangular lattices.

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