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Title: *Detecting symmetry fractionalization by magnetic impurities*

Abstract: *We study the Kondo effect of magnetic impurities in gapped Z_2 spin liquids. Using exactly solvable model and large- N mean-field theory, we demonstrate that certain symmetry fractionalization classes of the spinons will lead to a symmetry-protected non-Kramers degeneracy at the impurity location, after the Kondo screening of magnetic impurities takes place. We discuss how this phenomenon can be used to detect the symmetry fractionalization class of a topological order, and its associated experimental signatures.*