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Time-reversal invariant U(1) spin liquids in three dimensions CHONG WANG, SENTHIL TODADRI, Massachusetts Inst of Tech-MIT — We study possible quantum U(1) spin liquids in three dimensions with time-reversal symmetry. We find there are in total eight such states, distinguished by the properties of their emergent electric/magnetic charges. Various aspects of these states will be discussed, including their spin wave-functions and relevance to pyrochlore spin ices.

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