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Cummington St., Boston, MA 02215. *Stringy K-theory*.

We introduce a K-theoretic counterpart to Chen-Ruan orbifold cohomology. In the case where the orbifold arises as a global quotient, it can be obtained by taking the coinvariants of the K-theoretic analog of a noncommutative ring due to Fantechi-Göttsche. We explain how orbifold K-theory differs from equivariant K-theory as a ring and explain its realization as an equivariant  $(1 + 1)$ -dimensional TQFT. (Received February 12, 2006)