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Matthew Ando* (mando@math.uiuc.edu). *Ideas about elliptic cohomology and twisted K-theory from open string theory*. Preliminary report.

The representations of loop groups appear in topology two ways: in equivariant elliptic cohomology and in twisted equivariant K-theory. Stolz and Teichner have proposed a model for elliptic cohomology based on string theory; while Baas, Dundas, and Rognes have proposed a model for elliptic cohomology based on 2-vector spaces. These are a few of the situations in which twisted K-theory and elliptic cohomology both appear. I shall report on some ideas, which I mostly learned from David Berenstein, about how ideas from open string theory help to explain these relationships. (Received February 13, 2006)