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*Twisted K-theory of compact Lie groups and extended Verlinde algebras.* Preliminary report.

In a series of recent papers, Freed, Hopkins and Teleman put forth a deep result which identifies the twisted  $K$ -theory of a compact Lie group  $G$  with the representation theory of its loop group  $LG$ . Under suitable conditions, both objects can be enhanced to the Verlinde algebra, which appears in mathematical physics as the Frobenius algebra of a certain topological quantum field theory, and in algebraic geometry as the algebra encoding information of moduli spaces of  $G$ -bundles over Riemann surfaces. In this talk, I will present partial results on an extension of the Verlinde algebra with disconnected  $G$ , with a view towards its relation to a generalisation of moduli spaces called twisted moduli spaces proposed recently by E. Meinrenken. The talk is based on work in progress joint with David Baraglia and Varghese Mathai. (Received September 25, 2018)