1035-55-1329   **Matthew Ando*** (`mando@uiuc.edu`), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 W Green St., Urbana, IL 61801. *Higher loop group genera and the fibered WZW models of Distler and Sharpe.*

For a manifold M with spin tangent bundle T and auxiliary spin bundle V, Kefeng Liu introduced generalizations of the Witten genus based on representations of the loop group $LSpin(2d)$ at level k. He showed these genera to be rigid when $kc_2T = c_2V$, where c_2 is the equivariant half-Pontrjagin class. I showed that these bundles admit Thom classes in equivariant elliptic cohomology under the same characteristic class restriction. Recently Jacques Distler and Eric Sharpe have given physical constructions of these genera, called "fibered WZW models."

I'll review the work of Liu and myself and of Distler and Sharpe, and discuss questions raised by their work. For example, their physical QFTs should be realizable as QFTs in the sense of Stolz and Teichner. (Received September 19, 2007)