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Razvan Gelca* (rgelca@gmail.com), Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79410, and **Alejandro Uribe**, Department of Mathematics, University of Michigan, Ann Arbor, MI 48109. *The theory of classical theta functions from a topological perspective.*

We will show how the skein modules of the linking number can be used to model the theory of classical theta functions in the representation theoretic point of view of A. Weil. These skein modules were introduced by J. Przytycki as one parameter deformations of group algebras of the first homology groups of 3-manifolds. According to Witten's quantum field theoretic constructs, these skein modules arise in abelian Chern-Simons theory, and they should therefore be linked to classical theta function. The aim of this talk is to show that one can arrive at these skein modules, and at the Reshetikhin-Turaev formula for invariants of 3-manifolds, by looking closely at the classical theory of theta functions, without the insights of quantum field theory. (Received March 25, 2010)