



GEOMETRY, TOPOLOGY, AND PHYSICS SEMINAR

A hyperbolic state sum model for $SL(2, \mathbb{C})$ Chern-Simons theory

Tudor Dimofte
Cal Tech

Friday, May 2, 2008, 4:00 p.m.
Room 6635 South Hall

Abstract: I will talk about recent work with S. Gukov and J. Lenells. Based on a hyperbolic knot invariant of K. Hikami's, we propose a geometric state-sum-model construction for the partition function of $SL(2, \mathbb{C})$ Chern-Simons theory on hyperbolic three-manifolds. Perturbative coefficients of the partition function can be computed exactly in this construction, and we (successfully) compare the results to the Chern-Simons partition function obtained via geometric quantization.