

Pierrick Bousseau

The skein algebra of the 4-punctured sphere from curve counting

Abstract

The Kauffman bracket skein algebra is a quantization of the algebra of regular functions on the SL_2 character variety of a topological surface. I will explain how to realize the skein algebra of the 4-punctured sphere as the output of a mirror symmetry construction based on higher genus Gromov-Witten invariants of a log Calabi-Yau cubic surface. This leads to a proof of a previously conjectured positivity property of the bracelets bases of the skein algebras of the 4-punctured sphere and of the 1-punctured torus.