Mathematics and CS Seminar

Hodge theory of character varieties via Topological Quantum Field Theories

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Topological Quantum Field Theories are powerful categorical tools that provide deep insight into the behavior of topological invariants under gluing. In this talk, we will focus on their the applications to representation theory. Following this idea, we shall construct a lax monoidal TQFT that computes the class in the Grothendieck ring of algebraic varieties of the representation varieties over any compact manifold. This TQFT gives rise to a recursive pattern that can be exploited for creating an e_ective method of calculation. As application, we will use it to compute the virtual Hodge structure on the cohomology of SL(2;C)-character varieties.Joint work with M. Logares and V. Munoz.

Thursday, March 7, 2019 01:00pm - 03:30pm
Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

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