Mathematics and CS Seminar

P=W conjectures for character varieties with symplectic resolution

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Character varieties parametrise representations of the fundamental group of a curve. They are in general singular moduli spaces, and for this reason it is customary to shift attention to smooth analogues, called twisted character varieties. The P=W conjecture formulated by de Cataldo, Hausel and Migliorini posits a relation between the Hodge theory of twisted character varieties and the geometry of some holomorphic Lagrangian fibrations. In a joint work with Camilla Felisetti, we explore P=W phenomena in the untwisted case. We show that the P=W conjecture holds for character varieties which admit a symplectic resolution, namely in genus 1 and arbitrary rank and in genus 2 and rank 2. This involves a careful study of alterations of these character varieties. If time permits, I will discuss new numerical evidence of P=W phenomena in higher genus, when no symplectic resolution exists.

Thursday, October 8, 2020 02:00pm - 03:30pm

https://mathseminars.org/seminar/AGNTISTA

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