Mathematics, Statistics, and Computer Science **@ UIC**

Geometry, Topology and Dynamics Seminar

Maximal SO(2,3) surface group representations and Labourie's conjecture

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Abstract: The nonabelian Hodge correspondence provides a homeomorphism between the character variety of surface group representations into a real Lie group G and the moduli space of G-Higgs bundles. This homeomorphism however breaks the natural mapping class group action on the character variety. Generalizing techniques and conjectures of Labourie for Hitchin representations, we restore the mapping class group symmetry for all maximal SO(2, 3) = PSp(4, R) surface group representations. More precisely, we show that for each maximal SO(2, 3) representation there is a unique conformal structure in which the corresponding equivariant harmonic map to the symmetric space is a conformal immersion, or, equivalently, a minimal immersion. This is done by exploiting finite order fixed point properties of the associated maximal Higgs bundles.

Monday, September 14 at 3:00 PM in SEO 636