Seminar/Talk

Moduli spaces for nodal Riemann surfaces

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We consider graphs were each vertex is labeled by a number called genus. Such graphs appear in the classification of plumbed 3-manfolds and certain complex surfaces by Walter Neumann. To such a graph we associate two moduli spaces: Betti moduli space and Dolbeault moduli space. In the case of zero genus we obtain the multiplicative quiver variety as the Betti space.In the case of a graph with single vertex of genus g and no loops we obtain the usual Betti and Dolbeault moduli spaces associated to a Riemann surface, studied by many people. I will explain how the moduli spaces associated to star-shaped graphs produce parabolic versions of these.Then I will formulate an analogue of the Hausel-Letellier-Rodriguez-Villegas formula for these spaces. I will explain a motivation behind this formula, as well as the TQFT-like structure behind it. This formula will conjecturally compute certain refined Poincare polynomials of these spaces for arbitrary graphs and genera. Besides the original HLRV-conjecture (still open), I expect that my conjecture implies the Cherednik-Danilenko's conjecture about superpolynomials of cables of torus links. I hope to explain this in the very end.

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Office Bldg West / Ground floor / Heinzel Seminar Room (I21.EG.101)