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

Algebraic Geometry Seminar

Vector Bundles of Conformal Blocks– Rank One and Finite Generation

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Abstract: Given a simple Lie algebra \g, a positive integer l and an n-tuple of dominant integral weights for \g at level l, one can define a vector bundle on the moduli space of curves known as a vector bundle of conformal blocks. These bundles are nef in the case that the genus is zero and so this family provides potentially an infinite number of elements in Nef(M_0,n\bar) to analyze.

It is natural to ask how this infinite family of conformal blocks divisors lives in Nef(M_0,n\bar). Is the subcone generated by conformal blocks divisors polyhedral? In this talk, we give several results to this question for specific cases of interest. To show our results, we use a correspondence of the ranks of these bundles with computations in the quantum cohomology of the Grassmannian.

Wednesday, September 28 at 4:00 PM in SEO 427