

ALGEBRA
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Quantum Kostka and the rank one problem for sl_{2m}

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Abstract: In this talk we will define and explore an infinite family of vector bundles, known as vector bundles of conformal blocks, on the moduli space $M_{0,n}$ of marked curves. These bundles arise from data associated to a simple Lie algebra. We will show a correspondence (in certain cases) of the rank of these bundles with coefficients in the cohomology of the Grassmannian. This correspondence allows us to use a formula for computing "quantum Kostka" numbers and explicitly characterize families of bundles of rank one by enumerating Young tableaux. We will show these results and illuminate the methods involved.

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MATHEMATICS AND COMPUTER SCIENCE
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