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Abstracts of Short Communications and Posters

Section:

4. Algebraic Geometry

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Jarvis, Tyler J., Brigham Young University, USA
Geometry of the Moduli of Higher Spin Curves
We describe some aspects of the geometry of the moduli of r-spin curves for $r \geq 2$. r-spin curves, are pairs (X, L) with X a smooth curve and L a line bundle whose rth tensor power is isomorphic to the canonical bundle of X. We generalize results of Mumford, Cornalba, Hain, and Sipe to prove that when r is odd, the compactification of the moduli space is irreducible, and when r is even, it is the disjoint union of two irreducible components.
Furthermore, we generalize results of Cornalba giving relations between many of the elements of the Picard group. And we show that when 2 or 3 divides r, then the Picard group of the moduli space has non-zero torsion.