Mironov, A.; **Morozov, A.**; **Morozov, An.**; **Ramadevi, P.**; **Singh, Vivek Kumar**; **Sleptsov, A.**
Checks of integrality properties in topological strings. (English) Zbl 1381.83125
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Summary: Tests of the integrality properties of a scalar operator in topological strings on a resolved conifold background or orientifold of conifold backgrounds have been performed for arborescent knots and some non-arborescent knots. The recent results on polynomials for those knots colored by SU(N) and SO(N) adjoint representations [the first two authors, Phys. Lett., B 755, 47–57 (2016; Zbl 1367.81090)] are useful to verify Marino's integrality conjecture up to two boxes in the Young diagram. In this paper, we review the salient aspects of the integrality properties and tabulate explicitly for an arborescent knot and a link. In our knotebook website, we have put these results for over 100 prime knots available in Rolfsen table and some links. The first application of the obtained results, an observation of the Gaussian distribution of the LMOV invariants is also reported.

MSC:

83E30 String and superstring theories in gravitational theory
58J28 Eta-invariants, Chern-Simons invariants
81T45 Topological field theories in quantum mechanics
81R12 Groups and algebras in quantum theory and relations with integrable systems
62P35 Applications of statistics to physics

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