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A double copy from twisted (co)homology at genus one

The structure of tree-level string amplitudes has been illuminated by the use of Intersection Theory. In this talk we explore extensions of the Intersection-Theory approach to one-loop string amplitudes, based on the twisted cohomology of so-called Riemann-Wirtinger integrals in the Mathematics literature. In the same way as KLT relations reduce tree-level closed string amplitudes to squares of open string amplitudes, we find a factorized form of genus-one integrals relevant for closed-string amplitudes. Our results are a key step in deducing loop-level KLT relations from linear algebra relations in twisted homologies.

Summary

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