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Torsion in string topology

Friday 2 September 2022 10:10 (50 minutes)

I will explain why a particularly simple rational model for string topology (more precisely, the S^1-equivariant version) whose construction was sketched by Cieliebak-Fukaya-Latchev does indeed exist. From this model one can expect that the string coproduct is not a homotopy invariant in general using a connection to the Kashiwara-Vergne problem. This begs the question, what kind of manifold invariant the string coproduct (and string topology in general) is. I will explain how the string coproduct is essentially the Dennis trace of Reidemeister/Whitehead-torsion. This relationship goes through the configuration space of two points.
This is based on joint works with Thomas Willwacher and Pavel Safronov.

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