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Quantum geometry and small distances in M-theory

Thursday, 14 August 2014 10:30 (1 hour)

By using localization, we derive exact and closed expressions for partition functions of N=8 Chern-Simons-matter theories. This allows us to address the nature of quantum geometry and of small distances in M-theory. We show that, although classical geometry is modified due to membranes, there is a smooth interpolation from the semiclassical gravity regime all the way down to the Planck scale. In these examples, geometry is not discretized and there is no natural notion of a minimum distance.

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