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JT gravity and the asymptotic Weil-Petersson volume

Thursday, 17 December 2020 14:00 (20 minutes)

A path integral in Jackiw-Teitelboim gravity is given by integrating over the volume of the moduli of Riemann surfaces with boundaries, known as the "Weil-Petersson volume," together with integrals over wiggles along the boundaries. The exact computation of the Weil-Petersson volume is difficult when the genus g of Riemann surface becomes large. Utilizing two partial differential equations known to hold on the Weil-Petersson volumes, we estimate asymptotic behaviors of the volumes with two and three boundaries when the genus g is large. We also present a conjecture on the asymptotic expression for the general volume with any number of boundaries when the genus g is large.

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Session Classification: Short talks