Time Dependence and Holography in c=1 the Matrix Model

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Abstract

The c=1 matrix model offers a holographic description of two dimensional Liouville string theory. Certain time dependent solutions in the matrix model are naturally described using a time variable which runs over a finite period, leading to the possibility of space-like past and future boundaries in the string theory background. With this alteration in the boundary structure, holography needs to be reevaluated and it becomes important to understand bulk processes from their boundary (holographic) description.