

TEP Seminar

UCLA

Tuesday, November 18 @ 4:00 PM
Physics & Astronomy Building (PAB) 4-330

“Deconfinement transition as black hole formation by the condensation of QCD strings”

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We argue that the deconfinement transition of large- N Yang-Mills theory is the condensation of very long and self-intersecting chromo-electric flux strings (QCD string), which is analogous to the formation of a black hole in string theory. We do this by using lattice gauge theory and matrix models. As evidence, we derive an analytic formula for the deconfinement temperature in the strong coupling limit and confirm it numerically. Dual gravity descriptions interpreted in this manner should make it possible to understand the details of the formation of black holes in terms of fundamental strings. We argue that very simple matrix models capture the essence of the formation of black holes.