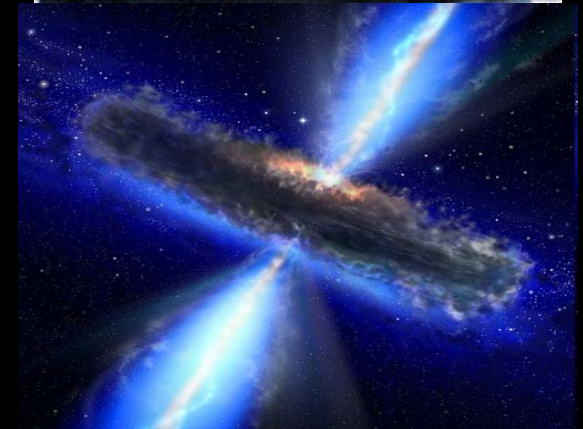


Theory Seminar

Monday, March 28, 2011 2:10 PM 831 Pupin Hall

BLACK HOLES FROM MATRICES

In this talk we set up a study of the processes of black hole formation and thermalization using the gauge/gravity correspondence. Our analysis is in the context of a matrix quantum mechanics, the so-called plane-wave (or BMN) matrix model. We consider configurations of the model that correspond to the scattering of "fuzzy spheres" and derive the spectrum of fluctuations around these configurations. We find that when two fuzzy spheres intersect, classical tachyons can form at the intersection locus. We follow the time evolution of these modes (also using numerical simulations) and speculate on their role toward the possible thermalization of the system.



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