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Title: “D-Brane Probes in Melonic Matrix Quantum Mechanics”

Recently, a new approximation scheme for matrix quantum mechanics was proposed. It is a large D limit for models in which D U(N) matrices interact through an O(D) invariant action. For a specific choice of the interaction terms, this limit has been shown to reproduce the physics of the SYK model without the need of random couplings. In this talk, I will show how a generalization of the concept of D-brane probe can be introduced for such an SYK-like matrix model, and how the corresponding probe brane action can be computed exactly. This leads to a test of a non-trivial relation with the free energy of the model. I will also provide new insight on the properties of the new large D limit of matrix quantum mechanics, by addressing several new model building issues.