

KMI Colloquium

M5-branes



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Abstract:

M5-branes are 5+1 dimensional objects in M-theory. Putting N M5-branes together, a 6d CFT was predicted with N^3 degrees of freedom, very different from N D-branes hosting N^2 degrees of Yang-Mills theories. Their novel properties are observed mostly by indirect methods rather than 6d QFT calculations, due to the lack of its microscopic formulations. Curiously, the mere existence of this brane and CFT leads to nontrivial predictions on lower dimensional QFT's, like the compactification of string/M-theory leading to a variety of interesting quantum systems. In this talk, after a review, I will briefly explain recent studies on a class of interesting observables in this 6d QFT, from exact calculations in 5 dimensional super Yang-Mills theory.