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Gauged 2-form Symmetries in 6D SCFTs Coupled to Gravity

Tuesday 13 July 2021 10:00 (30 minutes)

In this talk, I will discuss six-dimensional supergravity theories with superconformal sectors (SCFTs). Instances of such theories can be engineered using type IIB string theory, or more generally F theory. In the non-compact case, where gravity decouples, such constructions are known to provide examples of SCFTs with discrete 2-form global symmetries. Here, we will study the fate of these global symmetries in compact settings. As we will see, both for (2,0) and (1,0) theories, this fate is determined by the embedding of the SCFT charge lattices into the charge lattice of the supergravity theory. A primitive embedding implies that the 2-form symmetry is broken, while a non-primitive embedding allows a (gauged) subgroup to persist. This result will be illustrated with a few examples, and also connected to properties of 1-form symmetries in five dimensions.

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