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Flat Minkowski solutions from M-theory on G2 structure manifolds

Friday 21 June 2019 14:00 (45 minutes)

I will consider dimensional reductions of M-theory on G2 structure manifolds with arbitrary constant torsion. I will construct a novel family of non-supersymmetric Minkowski extrema. These solutions are supported by pure geometry with no extra need for gauge fluxes and possess a tachyon free perturbative mass spectrum, up to a single flat direction. Such a direction corresponds to the overall internal volume, with respect to which the scalar potential exhibits
a no-scale behavior. I will then conclude by discussing a possible mechanism to lift the flat direction to give it a positive squared mass while turning Mkw into dS. The construction makes use of the combined effect of flux and higher curvature corrections.

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