

G_2 -instantons on AC G_2 -manifolds

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Abstract

In this talk, I will review progress towards constructing G_2 -instantons on non-compact, irreducible G_2 -holonomy manifolds with asymptotically conical (AC) geometry, including recent joint work with Matt Turner (Bath) using co-homogeneity one symmetries (arxiv:2303.07967). I will then discuss steps towards understanding how the symmetric examples fit into the general picture of instantons on AC G_2 -manifolds, particularly the symmetric construction of Matthies-Nordstrom-Turner.