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Fake G_2 instantons

There is a lot of interest these days in instantons on manifolds with special holonomy. Unfortunately, one lacks examples to test ideas. Recently, various efforts have produced moduli spaces of instantons on some $Spin(7)$ and G_2 manifolds. Here we produce some moduli spaces of G_2 instantons on the product circle with a Calabi-Yau. Because this manifold has holonomy strictly in G_2 , we call them "fake." This result is part of a joint project with Aaron Smith and Spiro Karigiannis.