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Talk 7: Magdalena Larfors

Thursday 23 February 2017 11:30 (20 minutes)

Title: Infinitesimal moduli of G2 holonomy manifolds with instanton bundles

I will describe the infinitesimal moduli space of pairs (Y,V) where Y is a manifold with G2 holonomy, and V is a vector bundle on Y with an instanton connection. These structures arise in connection to the moduli space of heterotic string compactifications on compact and non-compact seven dimensional spaces, e.g. domain walls. I will show that the presence of V restricts the geometric deformations of Y to lie in the kernel of a "G2 Atiyah map", a concept I will explain. I will comment on the resemblance with the holomorphic Atiyah algebroid that arises in heterotic N=1 compactifications, and connect the story to physics, in particular to heterotic compactifications on (Y,V) when $\alpha'=0$.