Mathematics Department Colloquium

Organizer: Maciej Zworski

Thursdays, 4:10–5:00pm, 60 Evans

February 24 Dima Arinkin, University of Chicago

Connections with a small parameter and spectral curves

We consider the classification problem for lambda-connections on a curve ("differential operators of the form $\lambda(d/dx) + f(x)$"), where λ is a small parameter. If $\lambda = 0$, λ-connections are Higgs bundles, which can be classified using spetral curves. This allows a geometric description of the moduli space of Higgs bundles (known as the Hitchin fibration). Our aim is to adapt this construction to λ-connections when λ is small, assuming certain non-degeneracy conditions.