

Geometry, Physics, and Representation Theory  
Northeastern University

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Thursday, November 16, 2:50-3:50 pm, Lake Hall 509

**K-theoretic Donaldson-Thomas theory and  
tautological classes on the Hilbert scheme of points on  
a surface**

**Abstract**

The integrals of characteristic classes of tautological sheaves on the Hilbert scheme of points arise in enumerative problems. I'll explain an approach to the K-theoretic versions of such expressions.

Namely, I will explain how to compute the K-theoretic Donaldson-Thomas partition functions of toric Calabi-Yau threefolds, and will deduce from this computation certain symmetries satisfied by generating functions of equivariant Euler characteristics of tautological classes on the Hilbert scheme.