Algebra Seminar

Numerical Tilting and Derived Equivalence

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Abstract: The derived category of an algebraic variety is a categorical invariant which is coarser than the category of coherent sheaves. There are many interesting examples in geometry and representation theory of varieties or algebras with different categories of sheaves or modules but equivalent derived categories. For example, if G is a finite subgroup of $SL(3,\mathbb{C})$, Bridgeland, King, and Reid showed there is a derived equivalence between G equivariant sheaves on $\mathbb{C}^3$ and sheaves on a minimal resolution of the quotient. I will show how in many cases one can understand these equivalences by factoring them into simple equivalences called tilts.

Wednesday, October 23, 2013, 4:00 pm
Mathematics and Science Center: W306

Mathematics and Computer Science
Emory University