Harvard-M.I.T. Algebraic Geometry Seminar

NEW MODULI FOR K3 SURFACES, OR WHY CASTELNUOVO WOULD HAVE LIKED THE DERIVED CATEGORY

AARON BERTRAM
University of Utah

Stability is a notion that allows algebraic geometers to construct reasonable (e.g. separated) moduli spaces of coherent sheaves. On a surface with Picard number one, conventional wisdom held that there was essentially only one definition of stability, in terms of the slope of the sheaf. Thanks to new insights from our physicist friends, we now know that the conventional wisdom was wrong. In fact, there are families of (Bridgeland) stability conditions on the derived category, with interesting wall-crossing phenomena. In this talk, which is joint work with Daniele Arcara, I will describe one such family for the derived category of a K3 surface, and explain how the wall-crossing encodes some interesting projective geometry that Castelnuovo would have probably liked.

Tuesday, May 9th
3:00 p.m.
MIT Room 2-190

http://www-math.mit.edu/ags/