The UIC Algebraic Geometry Seminar

DERIVED TORELLI THEOREM AND ORIENTATION

PAOLO STELLARI and EMANUELE MACRI

Part 1 - Paolo Stellari
We consider the problem of describing the group of autoequivalences of the twisted derived categories of smooth projective K3 surfaces. First we state the Twisted Derived Torelli Theorem which detects the existence of equivalences between the twisted derived categories of K3 surfaces in terms of isometries of twisted Hodge structures on the total cohomology groups. A conjectural refinement of this result is then discussed and proved in generic twisted case.

Part 2 - Emanuele Macri
In this second part we deal with the orientation-preserving problem for autoequivalences between derived categories of K3 surfaces in the untwisted case. We present complete results for generic non-algebraic K3 surfaces and we outline a possible approach to the problem in the projective setting.

TBA
Monday, September 24th
4:00 p.m.

http://www.math.uic.edu/~coskun/f2007alggeom.html