Tuesday, September 30, 2008
12:30 - 2:00 p.m.

Mathematical Physics Seminar

Room MCS180 in the Math Dept
111 Cummington Street

Stability conditions and Stokes factors

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D. Joyce recently defined invariants counting semistable objects in an abelian category A with a given class in K(A). He obtained wall-crossing formulae with respect to a change of stability condition for these invariants, constructed holomorphic generating functions for these and showed that they satisfy an intriguing non-linear PDE.

I will explain how Joyce's wall-crossing formulae may be understood as Stokes phenomena for a connection on the Riemann sphere taking value in the Ringel-Hall Lie algebra of the category A. This allows one in particular to interpret his generating functions as defining an isomonodromic family of such connections parametrised by the space of stability conditions of A.
This is joint work with T. Bridgeland (arXiv:0801.3974).

Tea at 12:15

http://math.bu.edu/research/mathphys/seminar.html