

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

**ALGEBRAIC K THEORY, BRIDGELAND  
STABILITY CONDITIONS, AND  
FACTORIZATION HOMOLOGY OVER THE  
CIRCLE**

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Sep 4, 2013, 4:00 – 5:00pm

Math/Computer Science, Room 148

111 Cummington Street, Boston

Tea: 3:45pm in Room MCS 144

**Abstract:** I'll describe some work in progress that relates all three of the ideas in the title. We first prove that for any reasonable category (like the category of coherent sheaves on some curve) there is a family of maps from the moduli space of Bridgeland stability conditions to a certain configuration space of points on the circle. This particular configuration space, the Ran space of the circle, has shown up in manifold calculus and in factorization homology, and is a convenient way to encode deep information. By pondering what information this family of maps might encode, we can construct a family of spaces living over the space of stability conditions, and each family member embeds into the algebraic K theory space of the category. Moreover, each of these spaces seems to define a cosheaf over the Ran space of the circle. There are many families appearing, and it is natural to ask what these various families can tell us about the moduli space of stability conditions, or about Algebraic K Theory. No obvious answers have arisen yet, so most of the talk will be focused on the construction of everything I've mentioned.

See <http://math.bu.edu/research/geom/seminar.html> or contact Si Li [sili@math.bu.edu](mailto:sili@math.bu.edu) for more information.