Mathematics, Statistics, and Computer Science   **@ UIC**

Geometry, Topology and Dynamics Seminar

Open-closed string maps and circle actions in symplectic topology

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Abstract: Floer (or pseudoholomorphic curve) theory associates homological invariants to a symplectic manifold via a (semi-)infinite form of Morse homology. The resulting structures come in a ''closed string'' flavor generalizing quantum cohomology and an ''open string'' one known as the Fukaya category.

In this talk, we describe a general program in Floer theory to recover closed string invariants from open string invariants via ''open-closed string maps'', with focus on an extra geometric structure present in both theories: a chain-level circle action. There is motivation for understanding such a circle action from both topological field theory and mirror symmetry, where it is related to the Hodge-to-de Rham spectral sequence.

Monday, October 27 at 4:00 PM in SEO 612