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

Algebraic Geometry Seminar

Open Mirror Symmetry of Landau-Ginzburg Models

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Abstract: Mirror Symmetry provides a link between symplectic and algebraic geometry through a duality in string theory. In particular, it asserts a link from the symplectic geometry of a space M to the algebraic geometry of its mirror space W. One way we see this is now known as classical mirror symmetry: the Gromov-Witten or enumerative theory of a symplectic space is encapsulated by the Hodge theory / periods of the mirror algebraic space. In the 90s this was articulated just for Calabi-Yau varieties, but it has expanded even further to Fano varieties; however, the mirror space is now not an algebraic variety but a mildly non-commutative object known as a Landau-Ginzburg model. Recently, this notion has been developed even to articulate mirror symmetry between Landau-Ginzburg models. In this talk, we will explain what non-commutative Hodge theory / periods look like for a Landau-Ginzburg model and how they predict phenomena in open enumerative theories for the mirror.

Wednesday, September 4 at 4:00 PM in 1227 SEO