



THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE

Seminar in Geometry and Topology

Room 155 ,Ziskind Building
on Monday, Nov 18, 2019
at 09:00

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Open Gromov-Witten invariants and underlying structures

Abstract:

For X a symplectic manifold and L a Lagrangian submanifold, genus zero open Gromov-Witten (OGW) invariants count configurations of pseudoholomorphic disks in X with boundary conditions in L and various constraints at boundary and interior marked points. In a joint work with Jake Solomon from 2016, we define OGW invariants using bounding chains, a concept that comes from Floer theory. In a recent work, also joint with Solomon, we find that the generating function of OGW satisfies a system of PDE called open WDVV equation. This PDE translates to an associativity relation for a quantum product we define on the relative cohomology $H^*(X,L)$. For the projective space, open WDVV gives rise to recursions that, together with other properties, allow the computation of all OGW invariants.