Local Gromov–Witten invariants of Spin curves

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This is a joint work with Thomas H. Parker. We define a new type of sym- plectic "local Gromov-Witten invariant" of a spin curve. When X is a Kähler surface with a smooth canonical divisor D, its (full) GW invariants are expressed in terms of such local invariants, which in turn are universal functions determined by the genera of the canonical divisor components and the holomorphic Euler characteristic of X. We also show how these local GW invariants arise from an obstruction bundle (in the sense of Taubes) over the space of stable maps into curves. This yields an interesting theorem relating two- and four-dimensional Gromov-Witten theory.

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