Invariants of Legendrian Submanifolds from Contact Homology

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Abstract

How can we tell if two Legendrian submanifolds are isotopic through Legendrian submanifolds? There are easily-defined "classical" invariants of Legendrian isotopy, but contact homology techniques can be adapted to the Legendrian situation to show that the classical invariants do not tell the whole story. I will concentrate on Chekanov's combinatorial description of the invariant for Legendrian knots in the standard contact R^3 (for concreteness), connect it to geometric ideas discussed in the previous introductory SFT talks, and mention some applications and generalizations.