

Loop space, pseudo holomorphic disc and Mirror symmetry

KENJI FUKAYA

Kyoto University

So far there are two methods to realize transversality in the Floer theory of Lagrangian submanifold. (There are similar problem for several other types of theories.) One is using singular theory and the other is de-Rham theory. By using the second method it is possible to keep more symmetry. On the other hand, if we use first method it is possible to work over rational (or integer sometime) coefficient. I want to explain the reason why it is important to keep symmetry to the application to Mirror symmetry and why de-Rham theory and usage of Loop space technique makes it possible. I want to also explain why it is difficult to do so in singular theory etc. (and over rational coefficient).