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The structure of higher genus Gromov-Witten theory of quintic 3-folds

Tuesday, 7 May 2019 12:00 (55 minutes)

One of biggest and most difficult problems in the subject of Gromov-Witten theory is to compute higher genus Gromov-Witten theory of compact Calabi-Yau 3-fold. There have been a collection of remarkable conjecture from physics for so called 14 one-parameter models, simplest compact Calabi-Yau 3-folds similar to the quintic 3-folds. These conjectures were originated from universal properties of BCOV B-model. The backbone of this collection are four structural conjectures: (1) Yamaguchi-Yau finite generation; (2) Holomorphic anomaly equation; (3) Orbifold regularity and (4) Conifold gap condition. In the talk, I will present background and our approach to the problem. This is a joint work with F. Janda and S. Guo. Our proof is based on certain localization formula from log GLSM theory developed by Q. Chen, F. Janda and myself.

Presenter: RUAN, Yongbin

Session Classification: Talks