

Yuan-Pin Lee : QK = GV for CY3 at $g=0$

lundi 12 juin 2023 14:00 (1 heure)

In this talk, I will show that on a Calabi-Yau threefold (CY3) a genus zero quantum K-invariant (QK) can be written as an integral linear combination of a finite number of Gopakumar–Vafa BPS invariants (GV) with coefficients from an explicit multiple cover formula. Conversely, all Gopakumar–Vafa invariants can be determined by a finite number of quantum K-invariants in a similar manner. The technical heart is a proof of a remarkable conjecture by Hans Jockers and Peter Mayr.

This result is consistent with the “virtual Clemens conjecture” for the Calabi–Yau threefolds. A heuristic derivation of the relation between QK and GV via the virtual Clemens conjecture and a “multiple cover formula” will also be explained. This is a joint work with You-Cheng Chou.