
VINCENT BOUCHARD, University of Alberta
Topological recursion and double Hurwitz numbers

Double Hurwitz numbers count covers of the Riemann sphere by genus g Riemann surfaces with arbitrary ramification over 0 and ∞ , and simple ramification elsewhere. We show that generating functions for certain classes of double Hurwitz numbers satisfy the Eynard-Orantin topological recursion, which completely determines them recursively through complex analysis on particularly simple spectral curves. We also argue that double Hurwitz numbers can be obtained in the "infinite framing" limit of Gromov-Witten invariants on certain orbifolds, in parallel to a similar limit relating simple Hurwitz numbers and Gromov-Witten invariants of \mathbb{C}^3 . This is joint work with Dani Hernandez Serrano and Motohico Mulase.