

1067-05-566

Florian Block* (blockf@umich.edu), University of Michigan, 530 Church St, Ann Arbor, MI 48109. *Computing Node Polynomials for Plane Curves.*

Enumeration of plane algebraic curves has a 150-year-old history. A combinatorial approach to this problem, inspired by tropical geometry, was recently suggested by Brugalle, Fomin, and Mikhalkin. I will explain this approach and its applications to computing Gromov-Witten invariants (or Severi degrees) of the complex projective plane, and their various generalizations.

According to Goettsche's conjecture (now a theorem), these invariants are given by polynomials in the degree d of the curves being counted, provided that d is sufficiently large. I will discuss how to compute these "node polynomials," and how large d needs to be. (Received September 09, 2010)