

TROPICAL GEOMETRY AND ASYMPTOTIC ENUMERATION OF REAL RATIONAL CURVES

Ilia Itenberg

IRMA
Université Louis Pasteur
7, rue René Descartes
67084 Strasbourg Cedex
France

The goal of the talk is to give a brief introduction to tropical geometry and to present its applications in real enumerative geometry. In tropical geometry, complicated algebro-geometric objects are replaced by rather simple piecewise-linear ones. An important link between the complex algebraic world and the tropical one is given by Mikhalkin's correspondence theorem. This theorem together with the discovery of the Welschinger invariants (these invariants can be seen as a real analog of the Gromov-Witten invariants) give rise to several results concerning the enumeration of real rational curves on algebraic surfaces.