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Jacobians of limit Riemann surfaces

Abstract This is joint work with Eran Makover, Björn Mützel, Mika Seppälä and Robert Silhol. Consider a family of compact Riemann surfaces given by Fenchel-Nielsen parameters, where k of the length parameters go to zero and all other parameters are kept fixed. The Jacobians then tend to the Jacobian of the limit surface. In the lecture we show that this gives rise to a concept of Jacobians for finite graphs which should allow one to investigate certain phenomena in a simple computational setting. The Jacobians proposed here have twice the expected dimension and obey the Kirchhoff rules of electric circuits.