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**Topological recursion**

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Abstract

I intend to sketch how Kontsevich's theorem about intersection numbers on the moduli space of stable complex curves gives rise to meromorphic differentials which follow a recursion in the Euler characteristic. This topological recursion, discovered by Eynard and Orantin in 2007, is common to surprisingly many structures in algebraic and enumerative geometry. I also discuss our conjecture that an extension of topological recursion due to Borot and Shadrin governs the exact solution of a matrix model which in a particular limit gives rise to an interacting quantum field theory in four dimensions.