## Counting triangulations of surfaces with the partition function of the unitary ensembles of random matrices

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## Abstract

The generating function of polygonizations of oriented surfaces is a taufunction of the Toda lattice hierarchy, a classic example of a nonlinear integrable system. This result has been exploited to derive solutions to the enumertion problem of polygonizations partitioned by the genus of the surface for some special cases. We will discuss the recent results for triangulations an the limits of the method for further cases.