Limit laws of vertex degree distribution in planar maps

Gwendal Collet

TU Wien, Austria

We consider the family of rooted planar maps where the vertex degrees belong to a (possibly infinite) set of positive integers. Using a classical bijection with mobiles and some refined analytic tools to deal with the systems of equations that arise, we first recover the universal asymptotic behaviour of planar maps. Furthermore we establish that the expected number of vertices of a given degree satisfies a multi-dimensional central limit theorem. We also discuss some possible extension to maps of higher genus.