

EXPECTED TOPOLOGY OF RANDOM REAL ALGEBRAIC PLANE CURVES

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Broadly speaking Hilbert's sixteenth problem suggests studying the possible number and arrangement of connected components of a smooth real algebraic plane curve. One can also approach this problem from a probabilistic point-view and try to obtain statistical results such as computing the expected number of components etc. In this talk, I'll review some recent probabilistic results on this problem. In particular, I will give a Kac-Rice type formula computing the expected number of nested ovals winding around a fixed point.

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