Random walks on some planar structures

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Starting with the work of Dvoretzky and Erdős [1], and Erdős and Taylor [2], the properties of the simple symmetric random walk on the square lattice $\mathbb{Z}^2$ have been extensively investigated. About thirty years later a generalization of this model was introduced, the anisotropic random walk, mainly for applications in physics. (Silver at al. [4], Seshadri at al. [3]). In this lecture I will mention some of our results on anisotropic random walks, and consider two special cases of this model, the comb lattice, and the the half comb half plane structure. Strong theorems and local time issues will be briefly discussed. Furthermore I will talk about the random walk on a spider.

REFERENCES

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