

The random cluster model on trees and tree recursions

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The study of certain statistical mechanics models on trees can sometimes be reduced to the study of a “simple” recursion, as is the case for the random cluster model. It turns out that when this recursion is concave, it can be compared to that of effective conductances (potentially nonlinear) between the root and the leaves of the tree. In collaboration with Quentin Berger (*LAGA*), we estimated the precise asymptotic behavior of nonlinear conductances on Galton-Watson trees, which allowed us to obtain detailed information about the random cluster model on random trees.

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