
Coupling some conditioned Lévy trees with the Kesten tree

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Abstract

It is well known that (compact) Lévy trees conditioned to have a large height converge to the corresponding Kesten tree. A similar result has been proved for (compact) critical Lévy trees conditioned to have a large size branching vertex. We also prove that conditioning on the total mass of the Lévy tree provide the same result. (Notice the picture is different if the Lévy tree is sub-critical, and the results are then only partial.) The aim of this talk is to recast those convergences using a coupling argument between the Lévy tree and the Kesten tree, so that their proof is then obvious.

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