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Fragmentation associated to continuous random trees

This is a joint work with R. Abraham. There is a natural way to consider continuous limit of Galton–Watson trees, using Lévy process with no negative jumps (see the work of T. Duquesne, J.-F. Le Gall and Y. Le Jan). Each node of the continuous random tree has a mass corresponding to the "number" of its children. We cut each node at independent exponential random time with parameter equal to the mass of the node. This procedure gives a collection of smaller and smaller sub-trees. Considering the evolution of the sequence of the sizes of the subtrees as time goes on, we get a fragmentation process. In the stable case, this corresponds to the self-similar fragmentation described by G. Miermont. In the general case, we get a non self-similar fragmentation process. We compute for the general fragmentation process a family of dislocation measures as well as the law of the size of a tagged fragment.