ALLOCATION RULES FOR THE POISSON POINT PROCESS

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Consider the Poisson point process in Euclidean space. We are interested in functions on this random point set whose value in each configuration point is given by some "local" rule (no "central planning"). One example is the so-called allocation problem, where we want to partition $\mathbb{R}^d$ to sets of volume 1 and match them with the point process, in a translation equivariant way. We want to make the allocated set optimal in some sense (e.g., the distribution of the diameter shows fast decay). We will present some allocation schemes, among them one with an optimal tail, which is our recent construction with R. Marko.