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Limit theorems for random marked tessellations

By a marked particle process we understand a simple point process in $\mathcal{K}' \times \mathbb{M}$, where \mathcal{K}' denotes the space of non-empty compact subsets of \mathbb{R}^d and \mathbb{M} denotes the mark space. A random marked tessellation is then a special case where the corresponding unmarked particle process is a random tessellation in \mathbb{R}^d . For stationary random marked tessellations the intensity describes the mean number of cells per unit volume and the grain-mark distribution describes the joint distribution of a typical cell and its corresponding mark. We consider the estimators of these first-order characteristics and investigate their asymptotic behaviour as the observation window is expanding. For several particular models we are mainly interested in weak or strong consistency, variance asymptotics and asymptotic normality.