

# PALM THEORY ON UNIMODULAR RANDOM MEASURED METRIC SPACES

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**Abstract.** In this work, we define the notion of unimodular random measured metric spaces as a common generalization of various other notions. This includes the discrete cases like unimodular graphs and stationary point processes, as well as the non-discrete cases like stationary random measures and the continuum metric spaces arising as scaling limits of graphs. The definition is based on the mass transport principle, which is analogous to Mecke's theorem for stationary point processes. We mention various examples and general results; e.g., on weak limits, re-rooting invariance, random walks, ergodic decomposition, amenability and balancing transport kernels. In addition, we generalize the Palm theory to point processes and random measures on a given unimodular space. This is useful for Palm calculations and also for reducing some problems to the discrete cases.