

Summary statistics for inhomogeneous marked point processes

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Abstract We propose new summary statistics for intensity-reweighted moment stationary marked point processes with particular emphasis on discrete marks. The new statistics are based on the n -point correlation functions and reduce to cross J - and D -functions when stationarity holds. We explore the relationships between the various functions and discuss their explicit forms under specific model assumptions. We derive ratio-unbiased minus sampling estimators for our statistics and illustrate their use on a data set of wildfires.

Keywords Generating functional · Intensity-reweighted moment stationarity · J -function · Marked point process · Multivariate point process · Nearest neighbour distance distribution function · n -point correlation function · Reduced Palm measure

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