Analysing spatial point patterns with associated functional data

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Abstract: In this paper we develop a new statistical tool to study spatial point patterns where the features of interest are functions (i.e. curves) instead of qualitative or quantitative variables. We consider standard functional data analysis tools and point process theory to develop a new second order characteristic to analyse such kind of complex patterns.

Keywords: Functional data analysis; Functional marked point patterns; Point processes; Second order characteristics.

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