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### **Spatio-temporal modeling of eye movement data**

Eye tracking has become an important and widespread indirect measure of reactions to stimuli in various areas of applications, e.g. advertising, web design, psychology and vehicle simulator studies. Eye movement consists of stops of the gaze, called fixations, and jumps from one fixation to another, called saccades. Statistically thinking, a fixation can be treated as a realization of a spatio-temporal point process, hence a set of fixations constitute a point pattern. It is also possible to add information about fixation duration or length of previous saccade as a mark for a point. The family of marked point processes can now be used for eye movement data analysis. In this research an eye movement data related to arts is applied in order to find out which kind of point process models could be reasonable for eye movement data.

Keywords: eye movement, eye tracking, point process models