

# Prequel to Hawkes Processes: An Overview of Temporal and Spatio-Temporal Point Processes and Some Simulations

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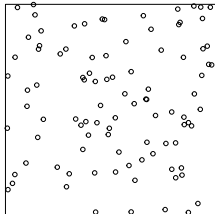
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# Background and Objectives

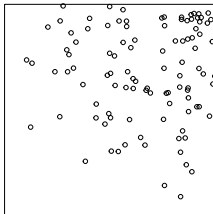
# Definitions, Properties, and Graphs

# HPP vs. NPP vs. Matern

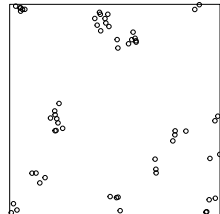
**HPP (rate = 100)**



**NPP (intensity =  $400 \cdot x \cdot y$ )**

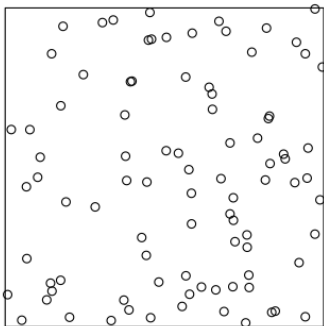


**Matern (kappa = 20,  $r = 0.05$ ,  $\mu = 5$ )**



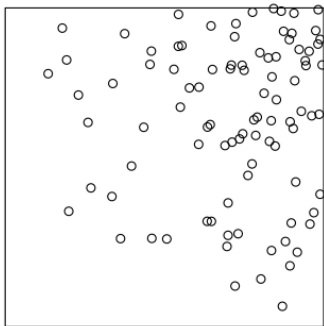
# HPP

**HPP (rate = 100)**



# NPP

**NPP (intensity =  $400 \times x \times y$ )**



# Matern

**Matern ( $\kappa = 20$ ,  $\nu = 0.05$ ,  $\mu = 5$ )**

