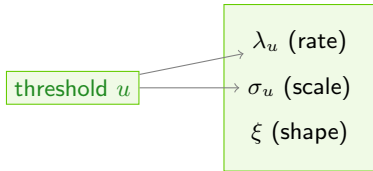
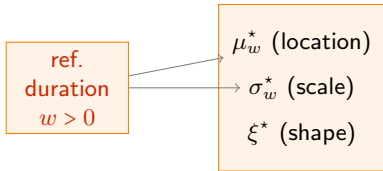


Poisson-GP



exceedances over u : $T_i \sim \text{PoisProc}(\lambda_u)$
marks: $Y_i \sim \text{GP}(u, \sigma_u, \xi)$
excesses: $Y_i - u \sim \text{GPD}(0, \sigma_u, \xi)$.

Point-Process



The maximum M of the marks Y_i on an interval with duration w has a tail which is $\text{GEV}(\mu_w^*, \sigma_w^*, \xi^*)$. It has a mixed distribution with an atom at $M = -\infty = \sup(\emptyset)$.