

Radboud University Nijmegen





Behavioral Science Institute

(Partial) Autocorrelation Function - (P)ACF

The average correlation r between data points that are a distance (lag) k apart in time

This holds only for *stationary, random processes*. So X measured here is a *random variable*.

ACF and the Partial ACF are used to decide which AR(f)MA model you need (how many AR and/or MA parameters you need).

$$R(k) = \frac{E[(X_i - \mu)(X_{i+k} - \mu)]}{\sigma^2}$$



2

4





Laq = 3



Trs length = 100 data points