Radboud University Nijmegen

Behavioural Science Institute

Relative roughness of a time series is:

Temporal properties of variability: Relative Roughness

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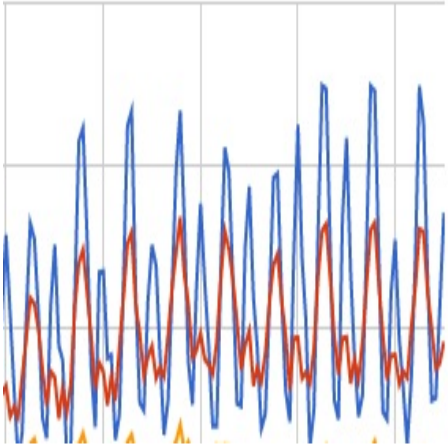
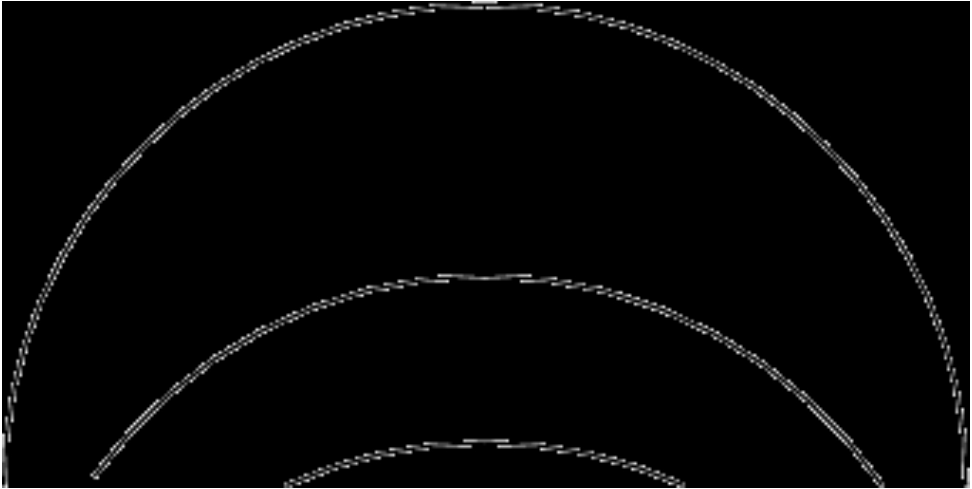
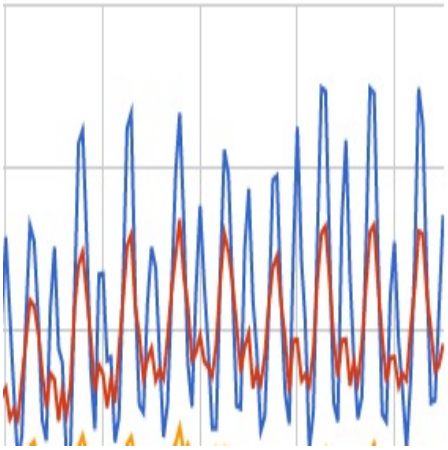


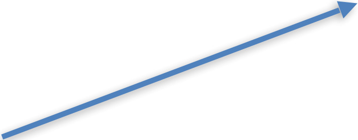


Local variance:
Fast changes

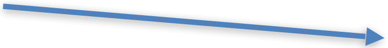
Global variance:
slow changes



$$\mathrm{RR} = 2\left[1 - \frac{\gamma_1\left(x_i\right)}{\mathrm{Var}\left(x_i\right)}\right]$$



Lag 1 auto-(co)variance



Overall variance

Temporal properties of variability: Relative Roughness

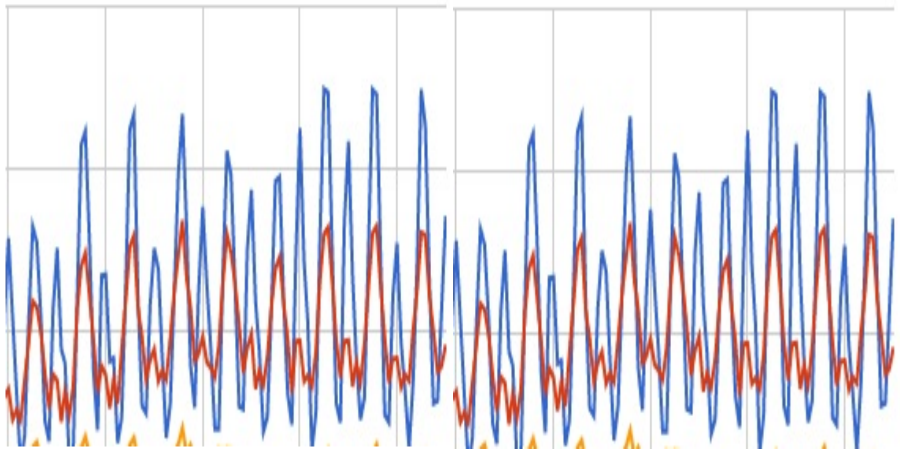
Relative roughness of a time series is:

$$RR = 2\left[1 - \frac{\gamma_1(x_i)}{\mathrm{Var}(x_i)}\right]$$

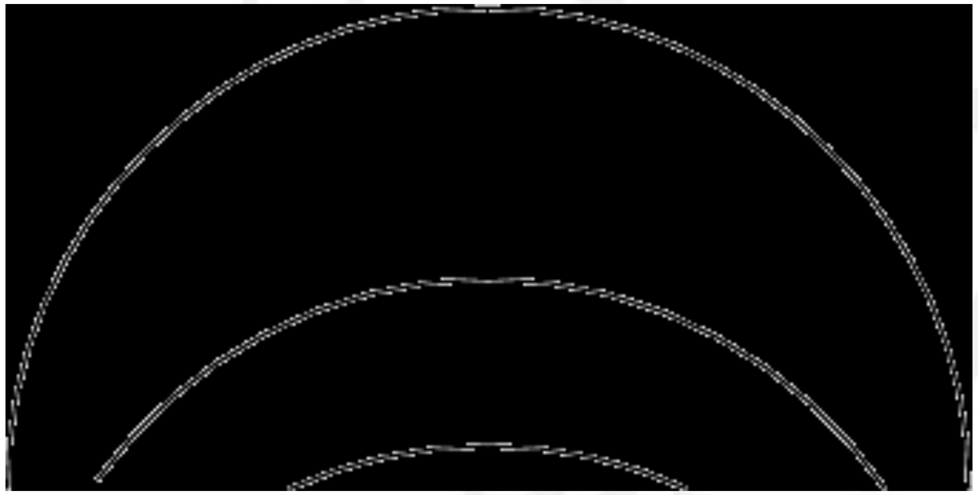
Lag 1 auto-(co)variance

Overall variance

Local variance:
Fast changes



Global variance:
slow changes



Temporal properties of variability: Relative Roughness