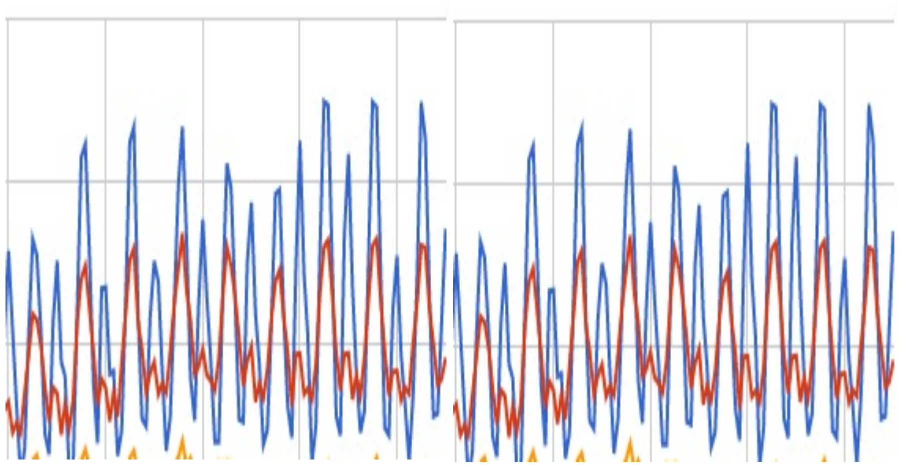
# Temporal properties of variability: Relative Roughness

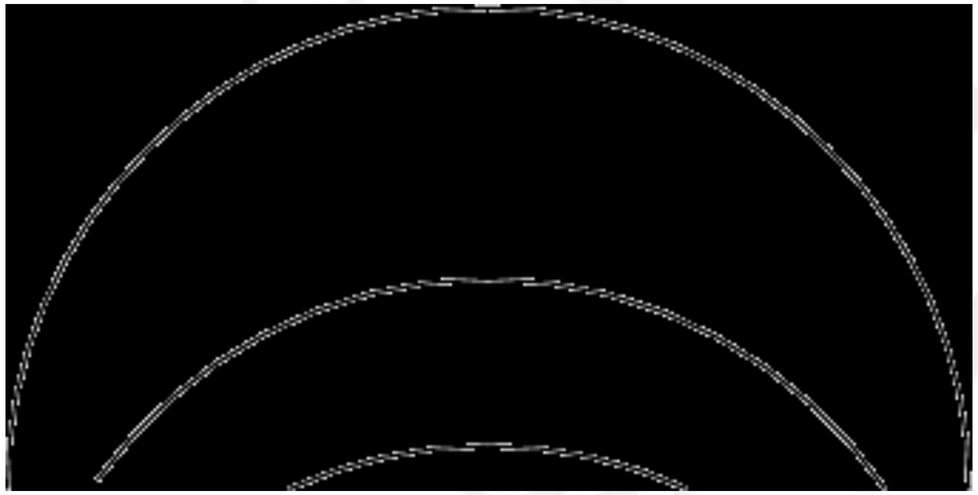
Relative roughness of a time series is:

$$RR = 2 * \left(1 - \frac{\text{local variance}}{\text{global variance}}\right)$$

**Local variance:**
Fast changes



**Global variance:**
Slow changes

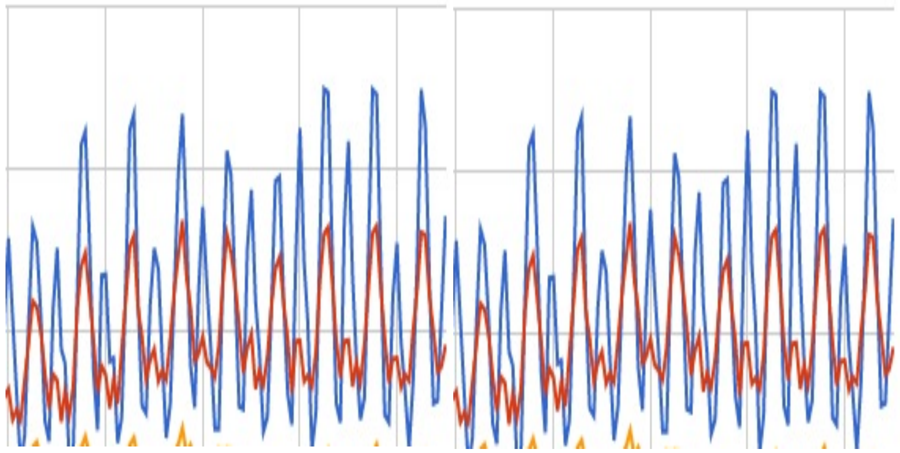


# Temporal properties of variability: Relative Roughness

Relative roughness of a time series is:

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

Local variance:
Fast changes



Global variance:
slow changes