

Radboud University Nijmegen





Behavioral Science Institute





Execute functions? RQ Analyze the RNG task

Oomen, W., Maes, J. H., Hasselman, F., & Egger, J. I. (2015). A time series approach to random number generation: using recurrence quantification analysis to capture executive behavior. *Frontiers in Human Neuroscience*, 9

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Executive control:

“be as random
as you can”

Vignette:

R manual or: <https://fredhasselman.github.io/casnet/index.html>



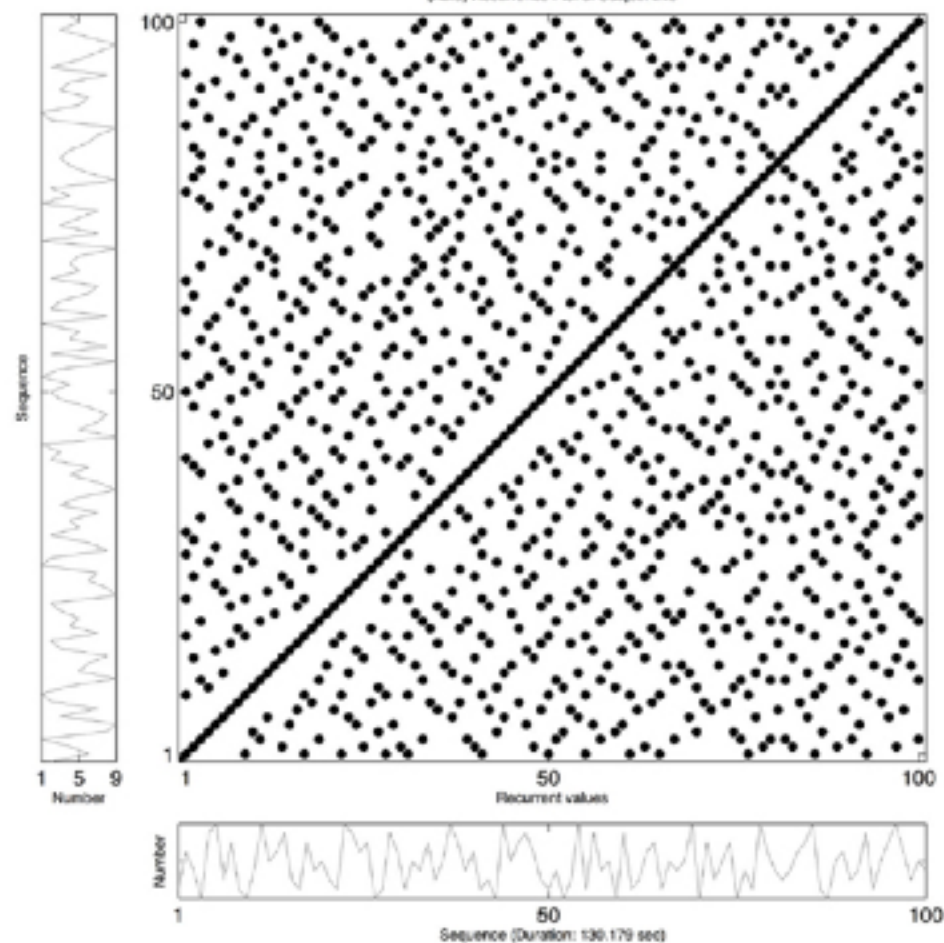


Many Applications of RQA

A

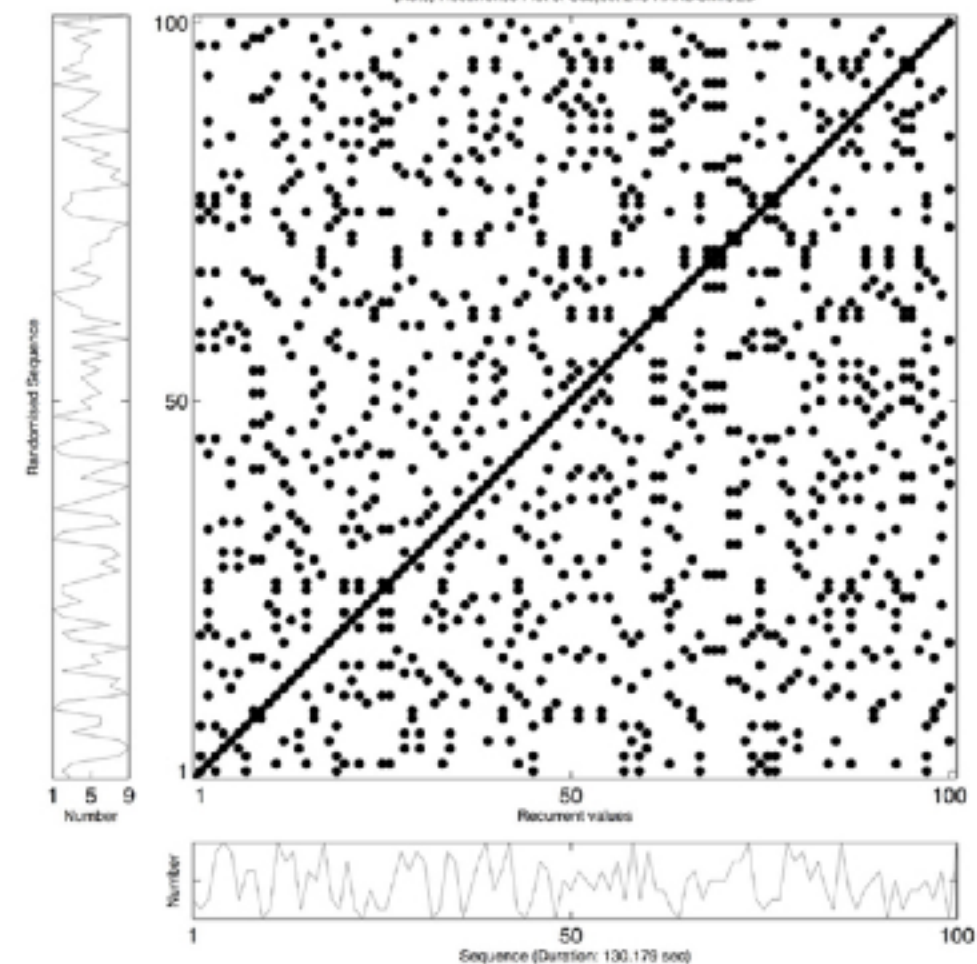
RQA measures:

REC = 0.105
 DET = 0.185
 Lmn = 2.04
 Lmx = 3
 ENT = 0.176
 LAM = 0
 Vmn = NaN
 Vmx = 0

**B**

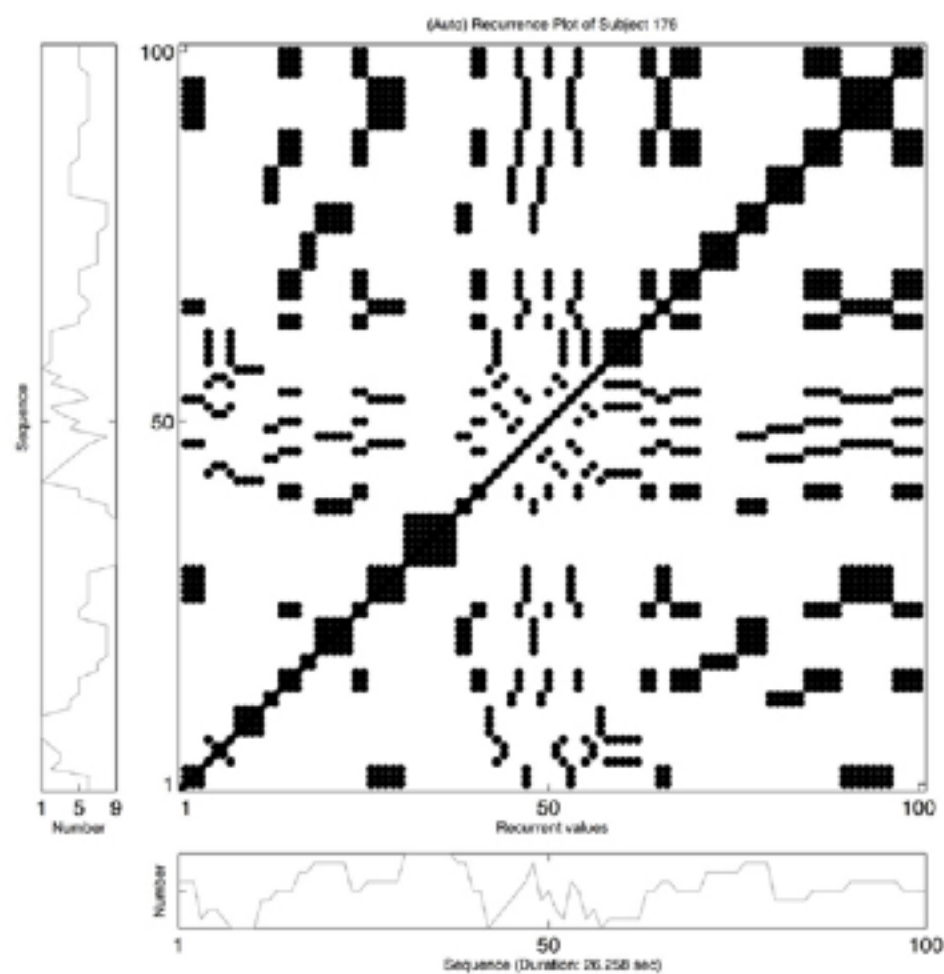
RQA measures:

REC = 0.105
 DET = 0.177
 Lmn = 2.14
 Lmx = 3
 ENT = 0.404
 LAM = 0.149
 Vmn = 2.12
 Vmx = 3

**C**

RQA measures:

REC = 0.138
 DET = 0.654
 Lmn = 2.65
 Lmx = 7
 ENT = 1.1
 LAM = 0.82
 Vmn = 3.3
 Vmx = 7

**D**

RQA measures:

REC = 0.138
 DET = 0.234
 Lmn = 2.22
 Lmx = 5
 ENT = 0.569
 LAM = 0.285
 Vmn = 2.25
 Vmx = 3

