

### Recurrence Quantification Analysis

**auto-Recurrence:** Symmetric recurrence plot around the LOS (Line of Synchronisation)

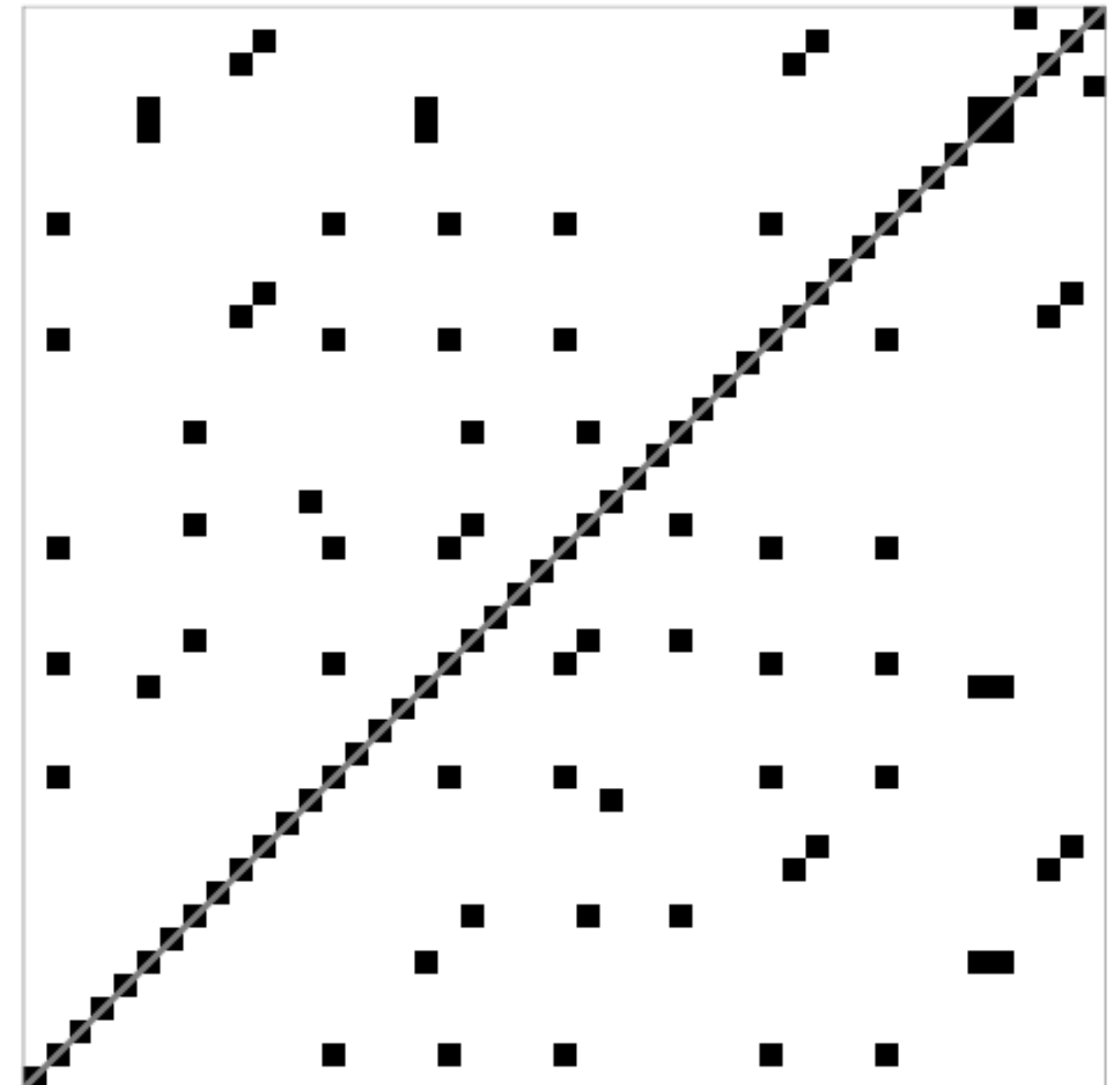
**Categorical (nominal):** 1 point = repetition of a category

Quantify patterns of recurrences:

**Recurrence Rate (RR):** Proportion actual recurrent points on maximum possible recurrent point (minus the diagonal):

$$70 / (47^2 - 47) = 0.032 \text{ (3.2\%)}$$

$$35 / ((47^2 - 47) / 2) = 0.032 \text{ (3.2\%)}$$



## Recurrence Quantification Analysis

*Diagonal lines* ➡ repetition of any pattern:  
“de wandelwagen” is recurring 2 times

**Determinism (DET)**: proportion recurrent points that lie on a diagonal line

$$8 / 70 = 0.114 \text{ (11.4\%)}$$

$$4 / 35 = 0.114 \text{ (11.4\%)}$$

*Vertical lines* ➡ recurrence of exactly the same value:  
“jan jan”

**Laminarity (LAM)**: proportion recurrent points that lie on a vertical line

$$4 / 70 = .057 \text{ (5.7\%)}$$

$$2 / 35 = .057 \text{ (5.7\%)}$$

## Recurrence Matrix / Recurrence Plot

