Time Series Pattern Recognition Exercize 5

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1 Exercize

- Predict the sunspot (yearly) data using ARMA(m, 1)model with $1 \leq m \leq 15$ (in the setting of the samplecode)
- Find the optimal value m^*that minimizes RMSE in thetest period
- Plot the mean and the confidence interval of thepredicted time course obtained by the ARMA(m^*, 1)model

2 Find $m^*$and plot ARMA(m^*, 1)model

m	1	2	3	4	5	6	7
RMSE	65.09	76.02	41.07	42.33	42.07	36.92	35.20

m	8	9	10	11	12	13	14	15
RMSE	34.74	35.07	36.69	34.91	34.79	35.03	35.67	35.20

$m^* = 8$

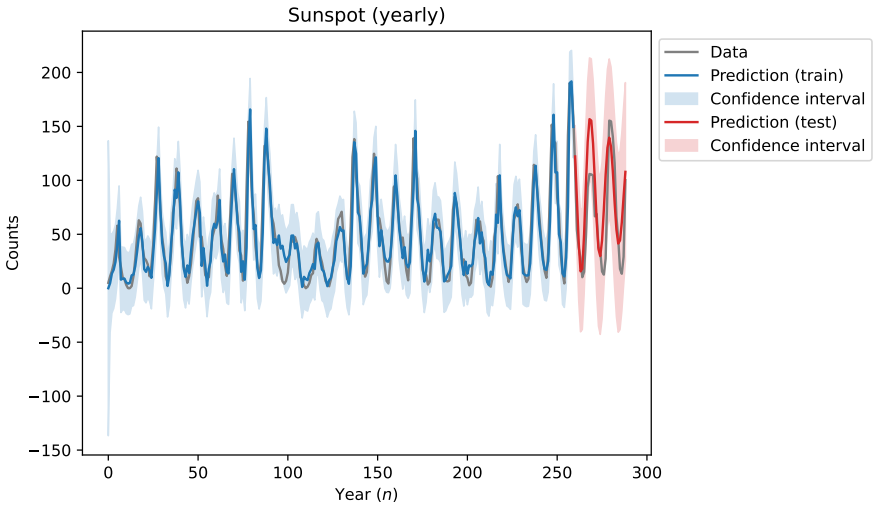

図 1: ARMA(8,1)