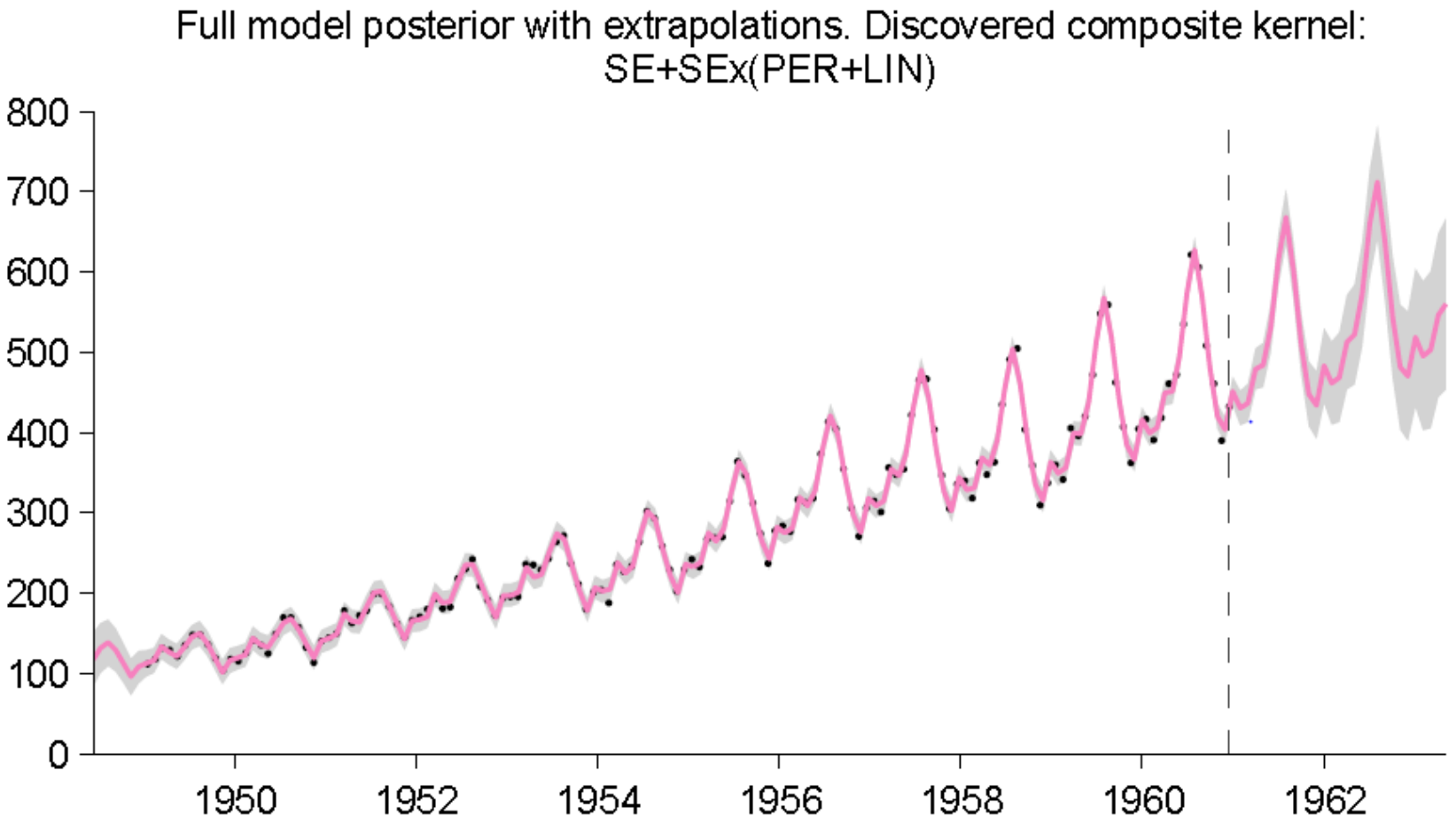
International airline passengers: monthly totals in thousands. Jan 49 – Dec 60



Base list of kernels: Linear(LIN), Squared Exponential (SE), Periodic (PER), and Constant (Const).

Search depth was limited to **10** levels with a ***model complexity penalization*** threshold of **2** using *Bayesian Information Criterion*.

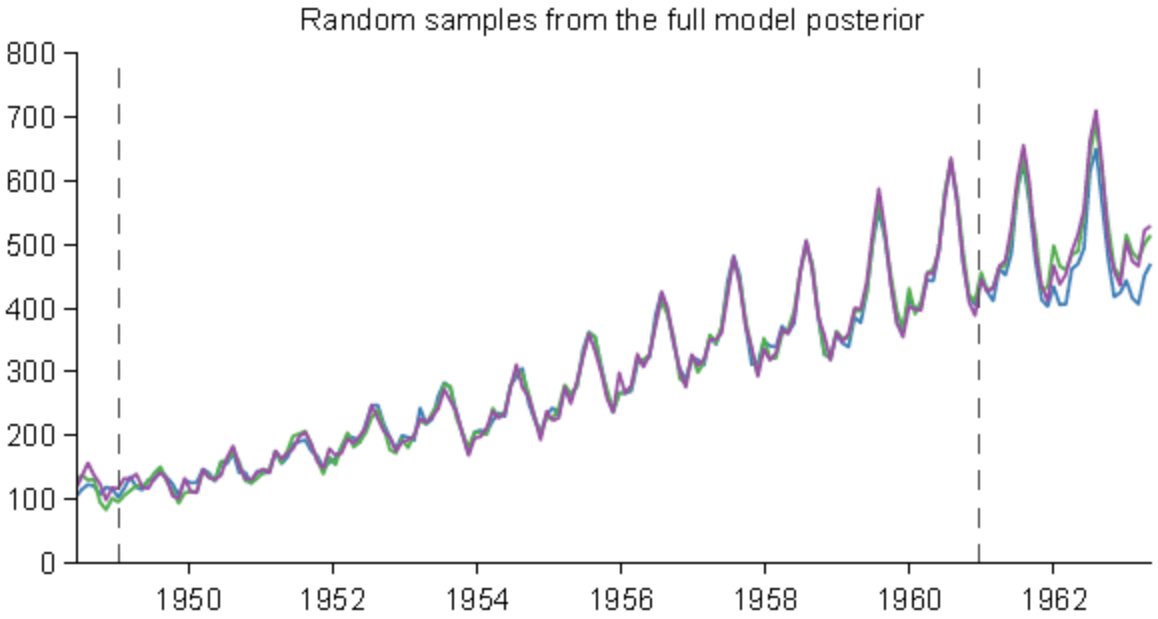
Structure search algorithm automatically discovered the existing composite kernel structure in data at the end of **4th** level of search:

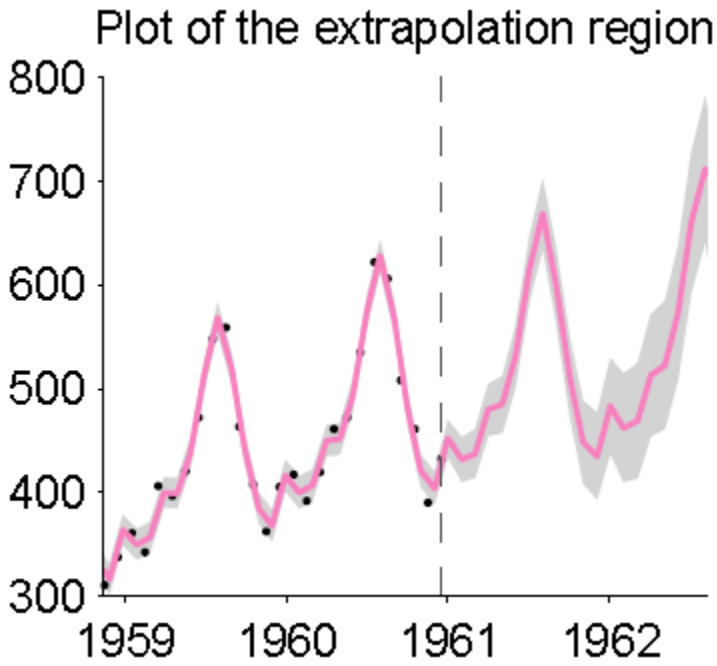
SE + SE x (PER + LIN)

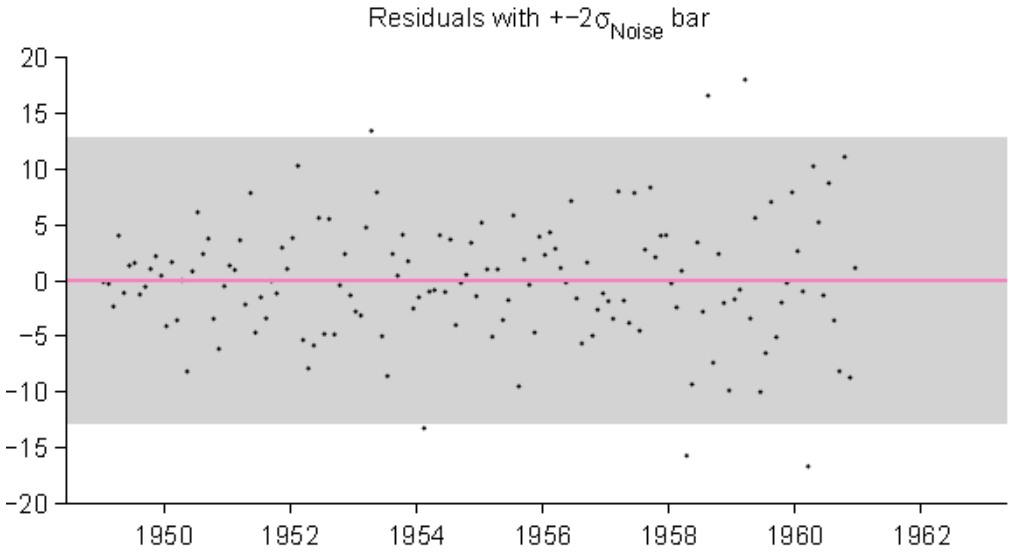
Average Uncertainty ($\sigma_{Predict}$, mean of the square root of the complete covariance matrix's diagonal): 10.9247

$\sigma_{Predict,\ min.} = 7.1273$ $\sigma_{Predict,\ max.} = 53.1592$

Inferred Noise (σ^2_{Noise} , inverse of noise precision): 40.8459


Random samples from the full model posterior
800
700
600
500
400
300
200
100
0
1950
1952
1954
1956
1958
1960
1962


Plot of the extrapolation region
800
700
600
500
400
300
1959
1960
1961
1962


Residuals with +−2σNoise bar
20
15
10
5
0
−5
−10
−15
−20
1950
1952
1954
1956
1958
1960
1962