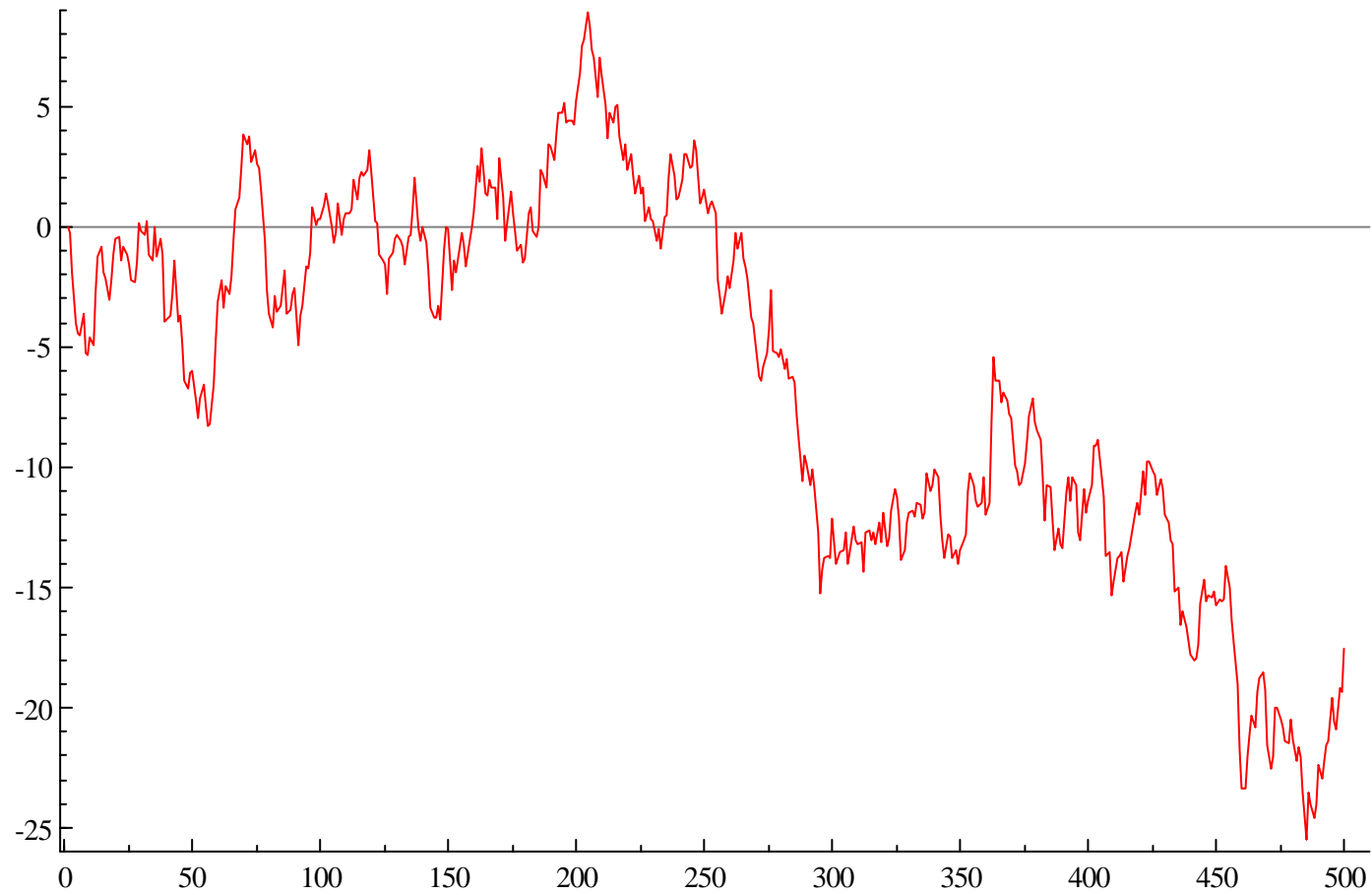
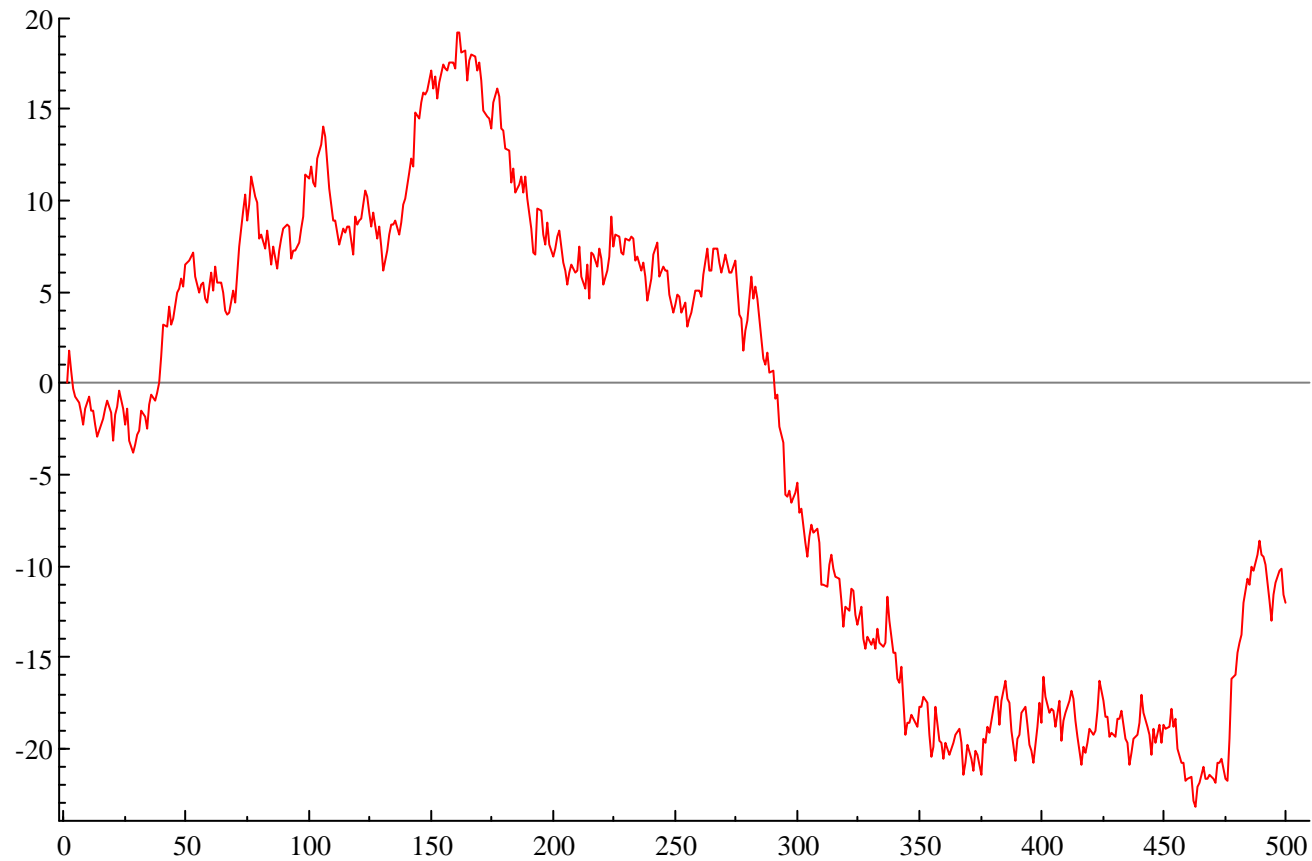


$$Y_{2t} = Y_{2,t-1} + u_{2t}$$



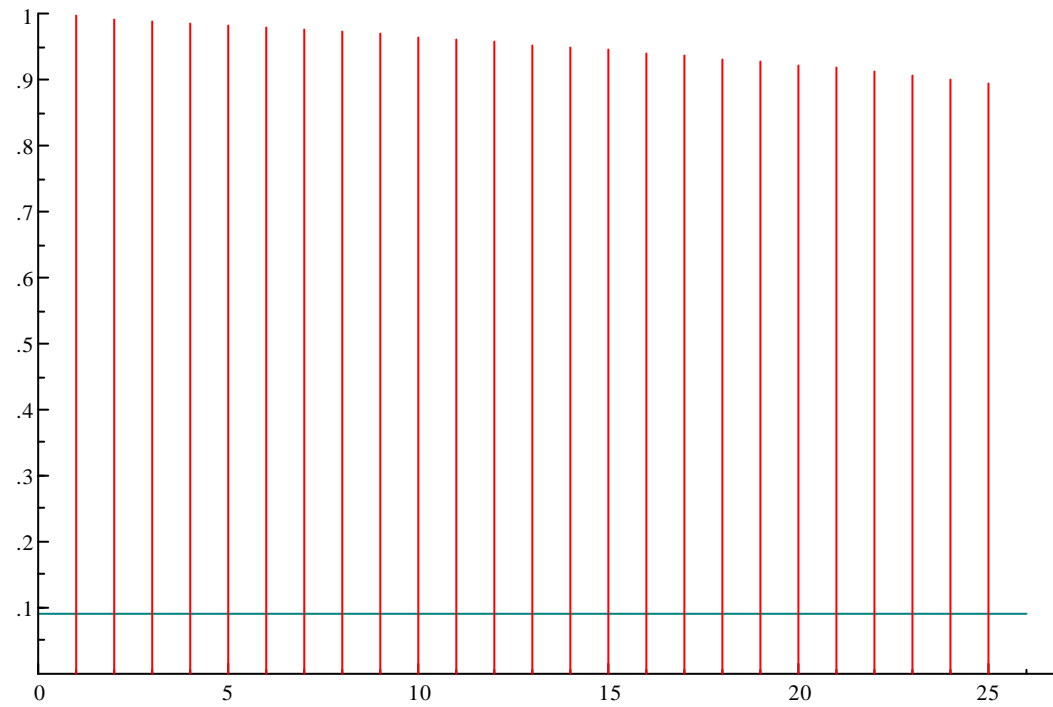
Random Walk

$$Y_{1t} = Y_{1,t-1} + u_{1t}$$



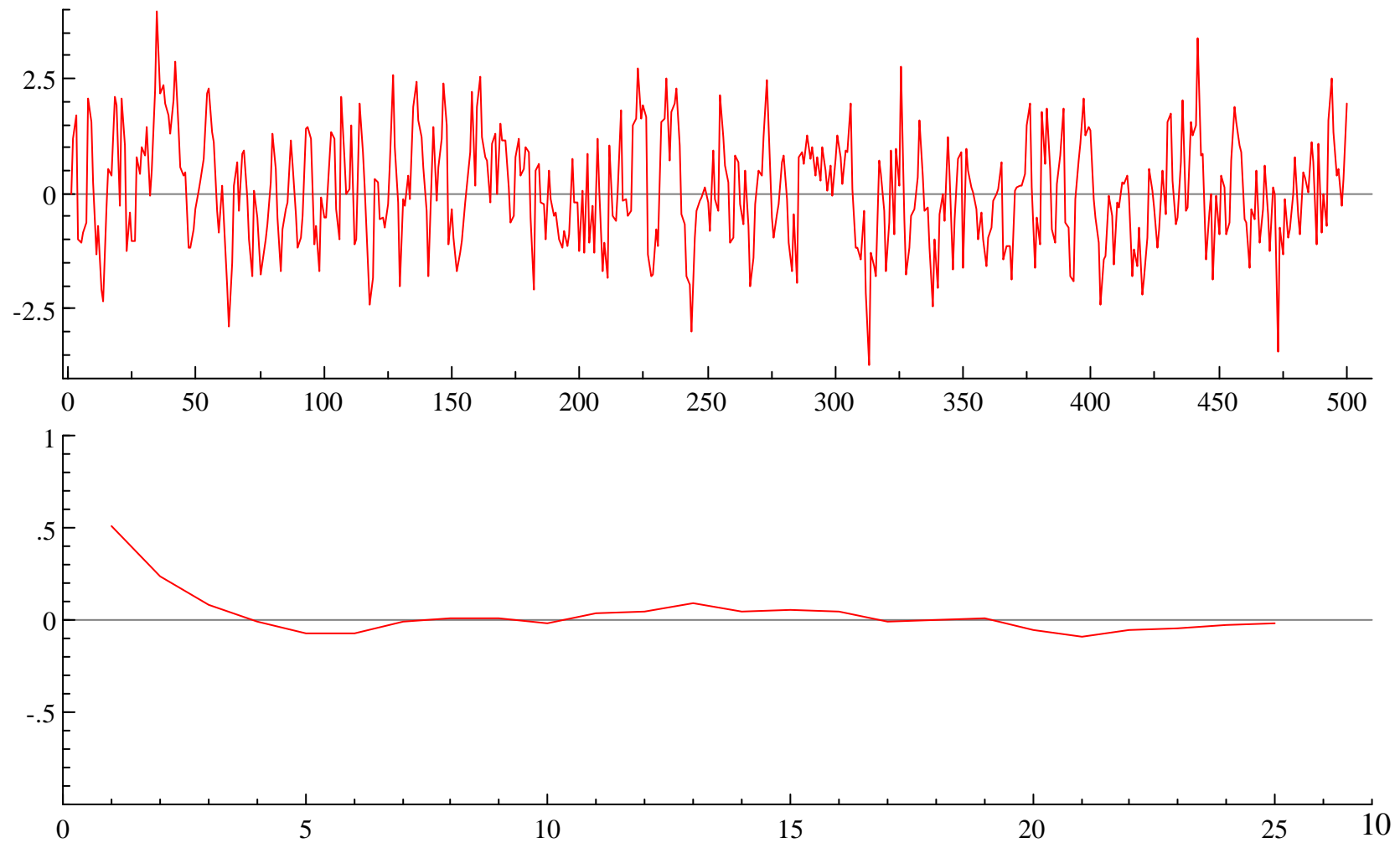
Random Walk

Sample Correlogram of $Y_{1t} = Y_{1,t-1} + u_{1t}$



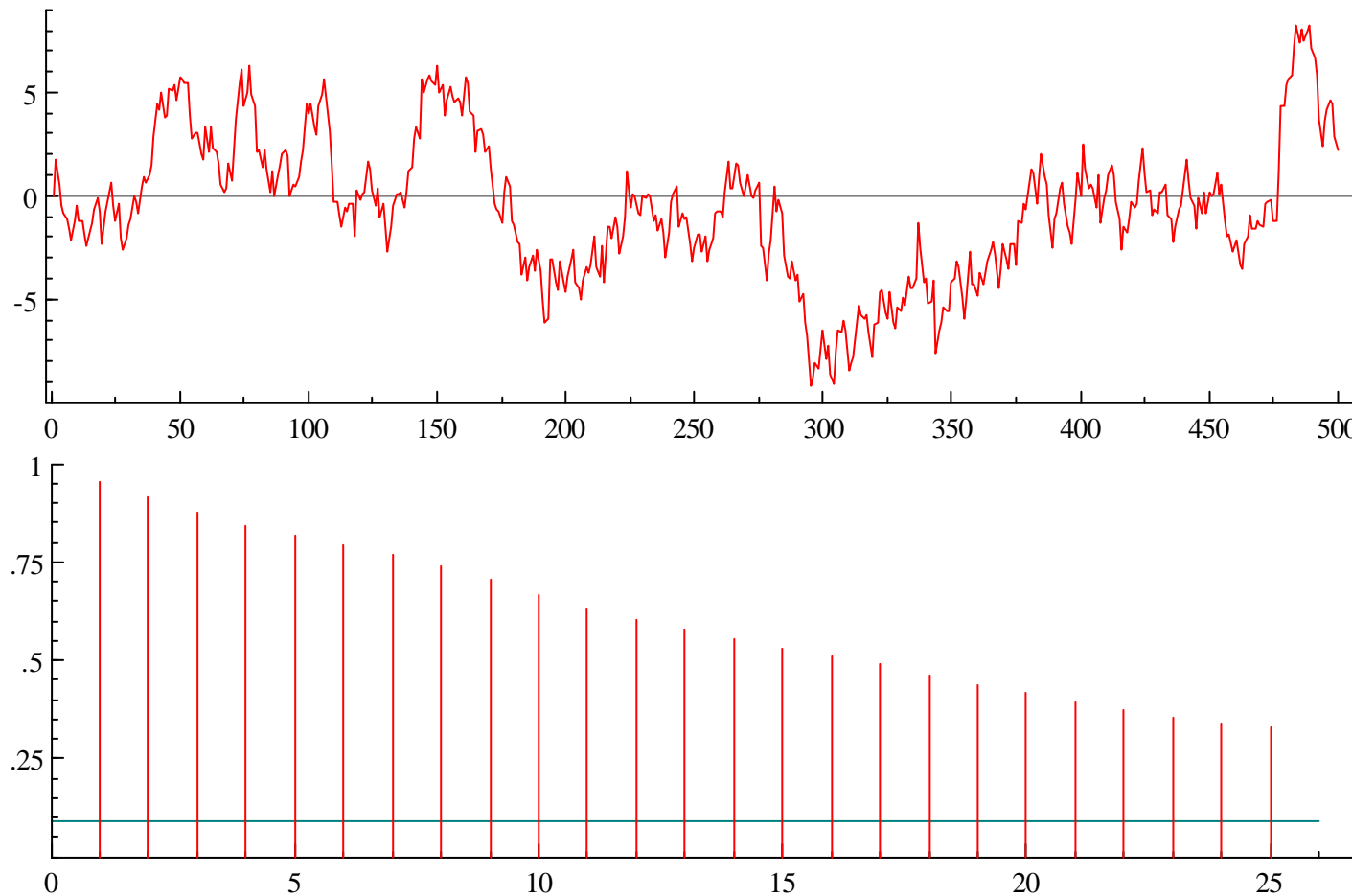
Series and
Correlogram of :

$$Y_t = 0.5Y_{t-1} + e_t$$

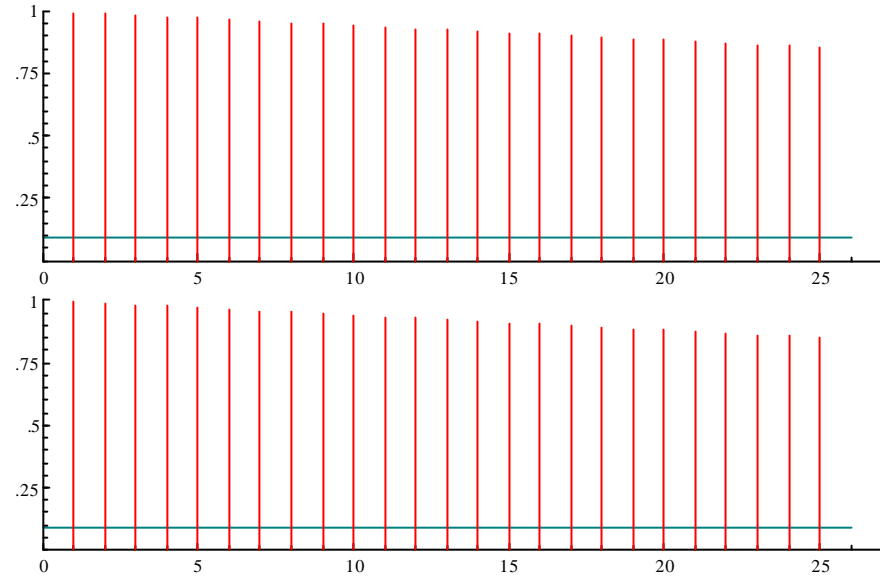
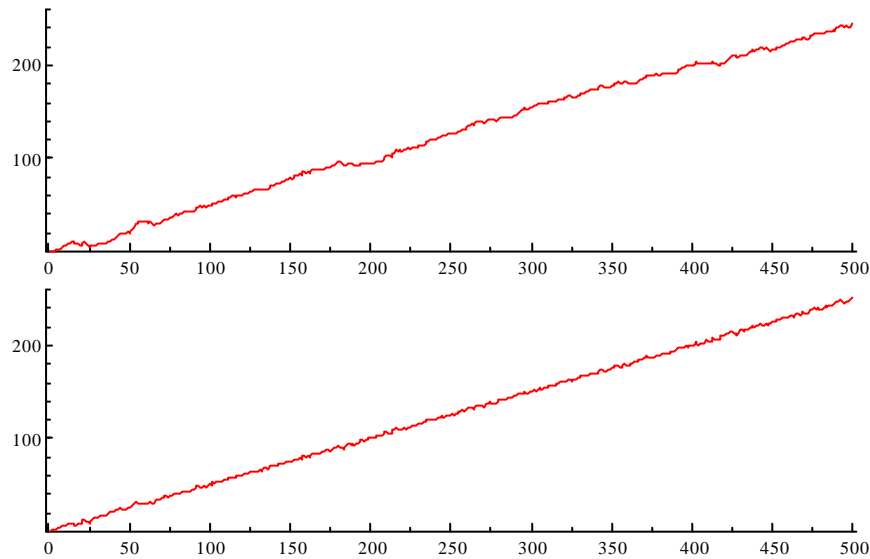


Series and
Correlogram of :

$$Y_t = 0.95Y_{t-1} + \mathbf{e}_t$$



Trend: Deterministic or Stochastic?



The First
$$Y_t = a_1 + Y_{t-1} + \mathbf{e}_t$$

The Second
$$Y_t = a_1 + a_2 Y_{t-1} + a_3 t + \mathbf{e}$$