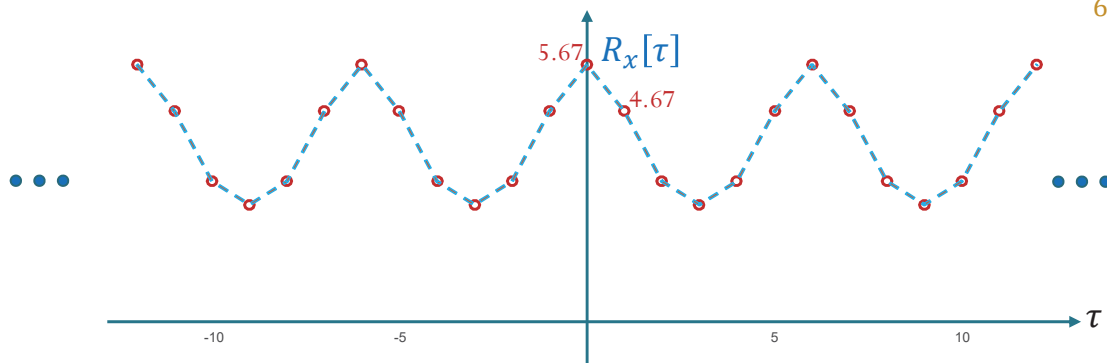
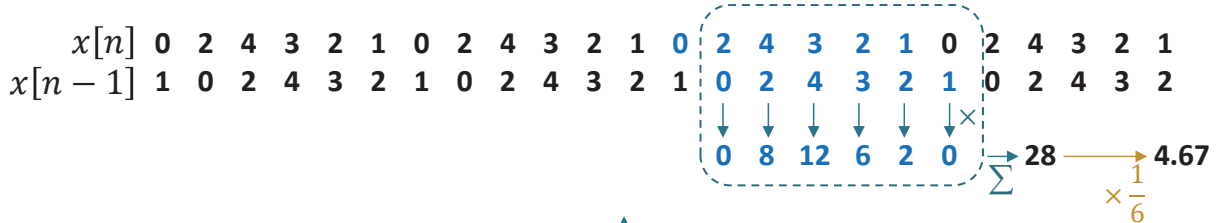
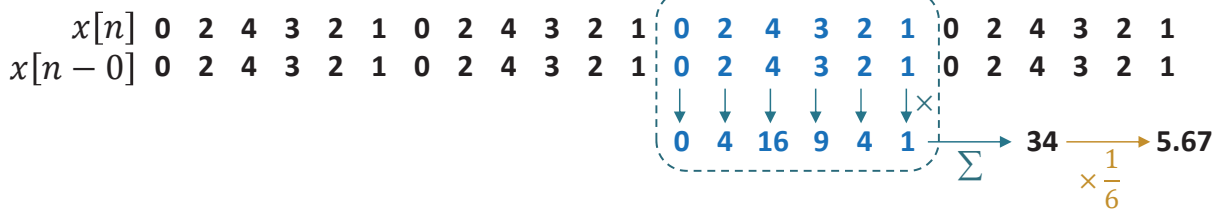
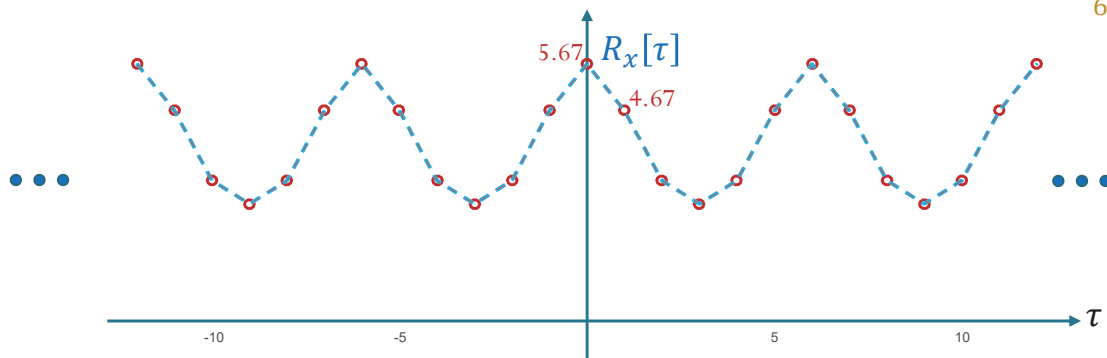
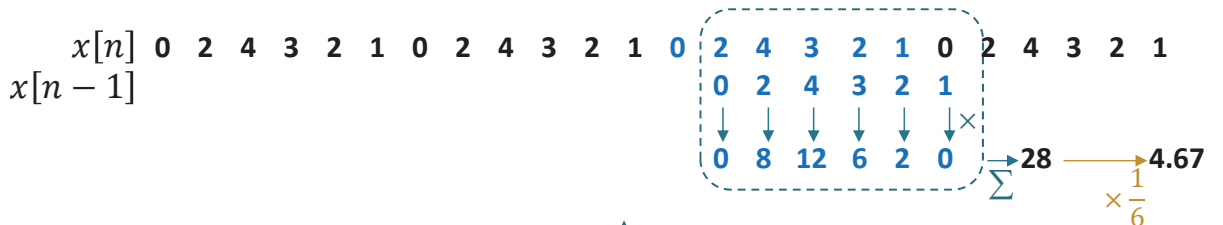
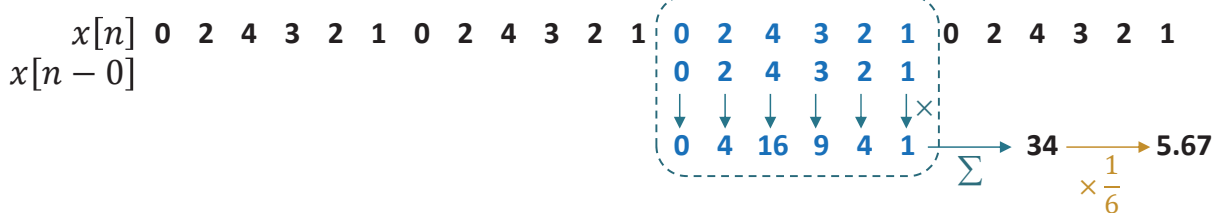




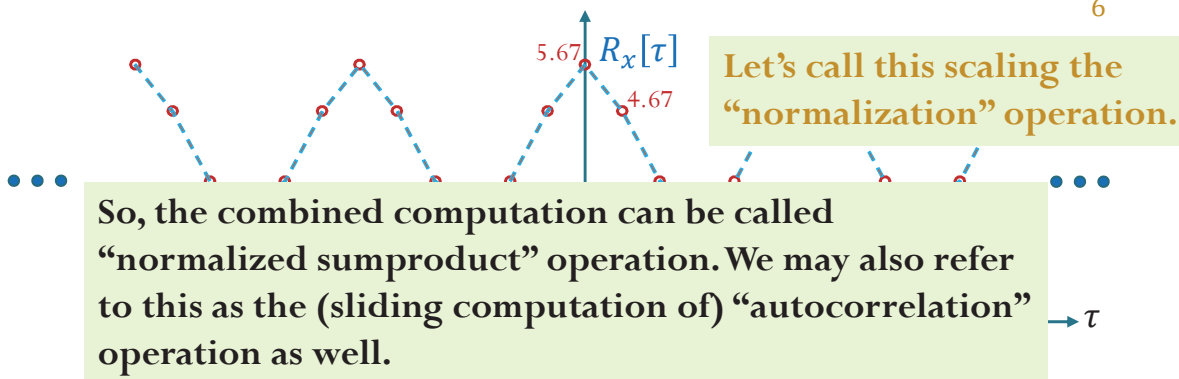
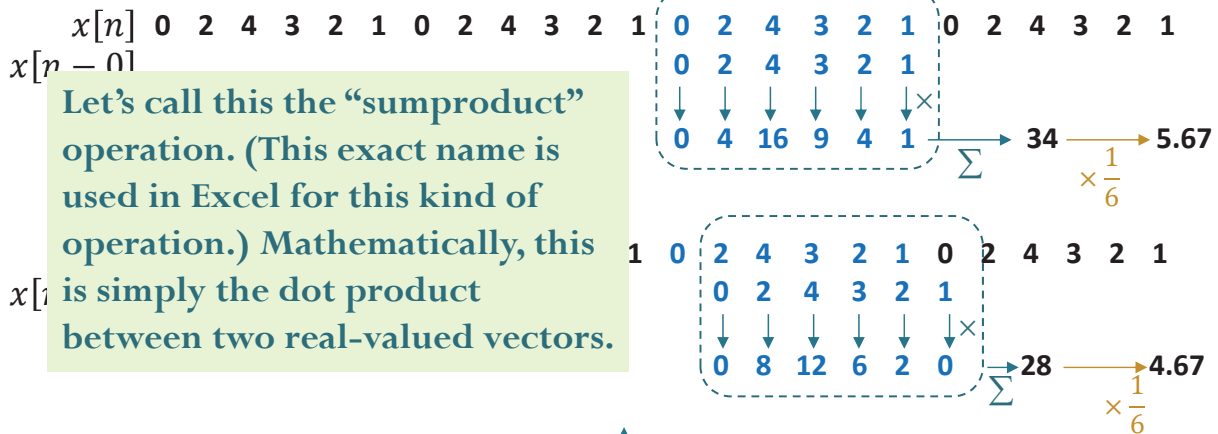
Example: (Time) Autocorrelation Function for Periodic Sequence



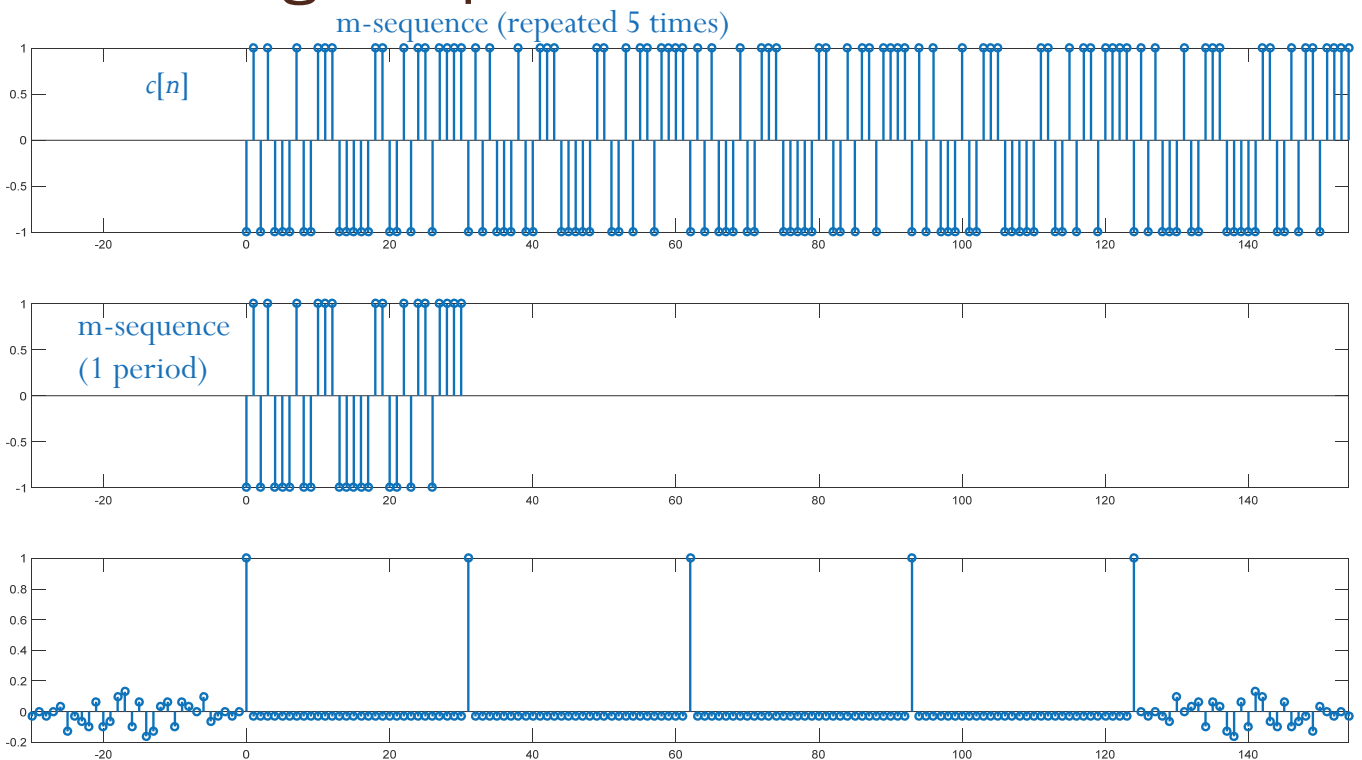
Example: (Time) Autocorrelation Function for Periodic Sequence



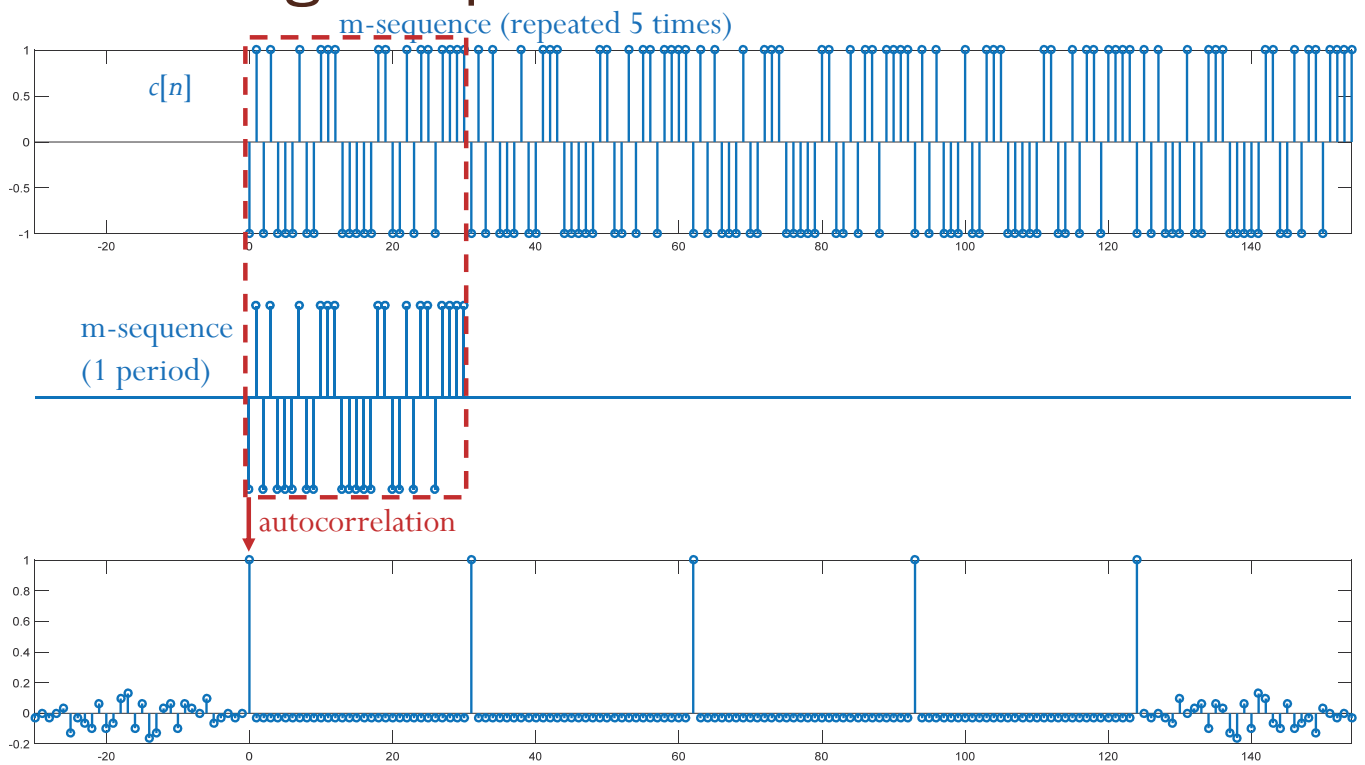
Example: (Time) Autocorrelation Function for Periodic Sequence



Sliding computation of autocorrelation



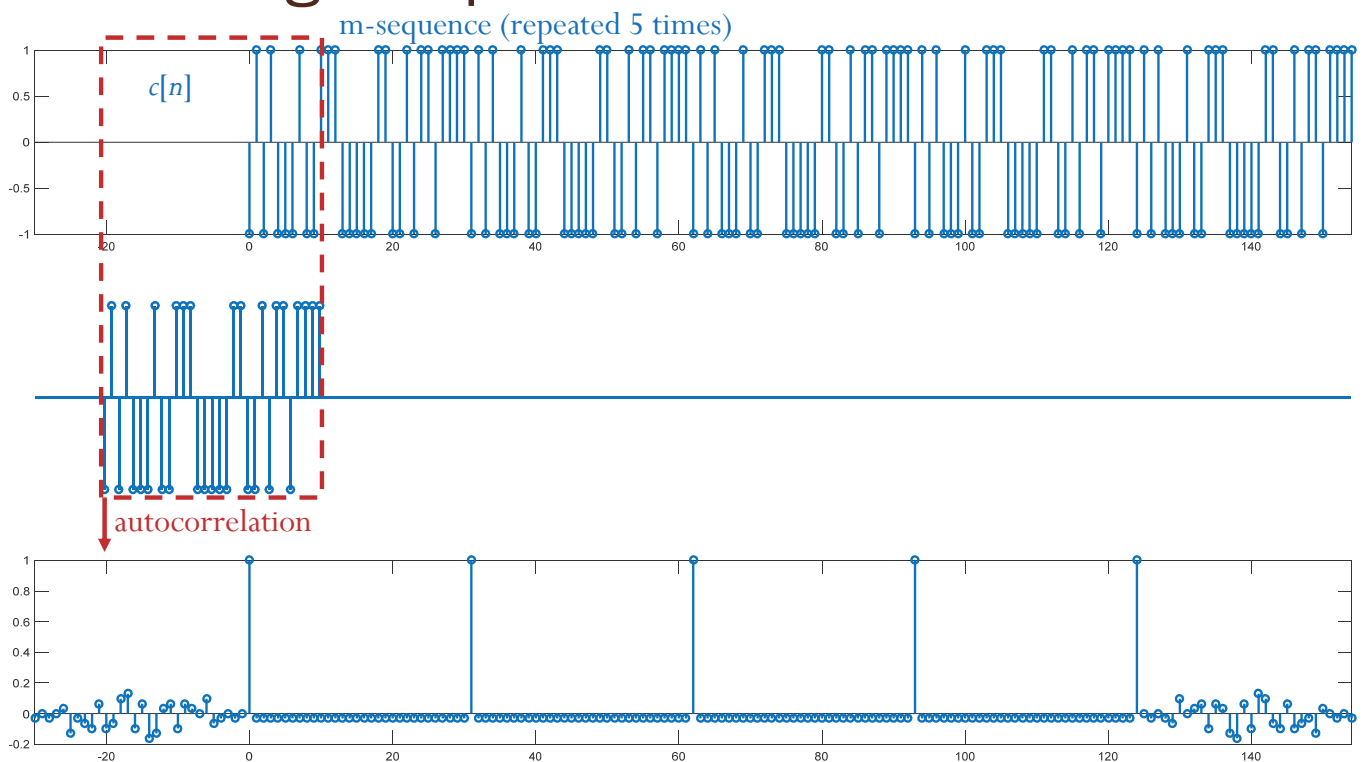
Sliding computation of autocorrelation



7



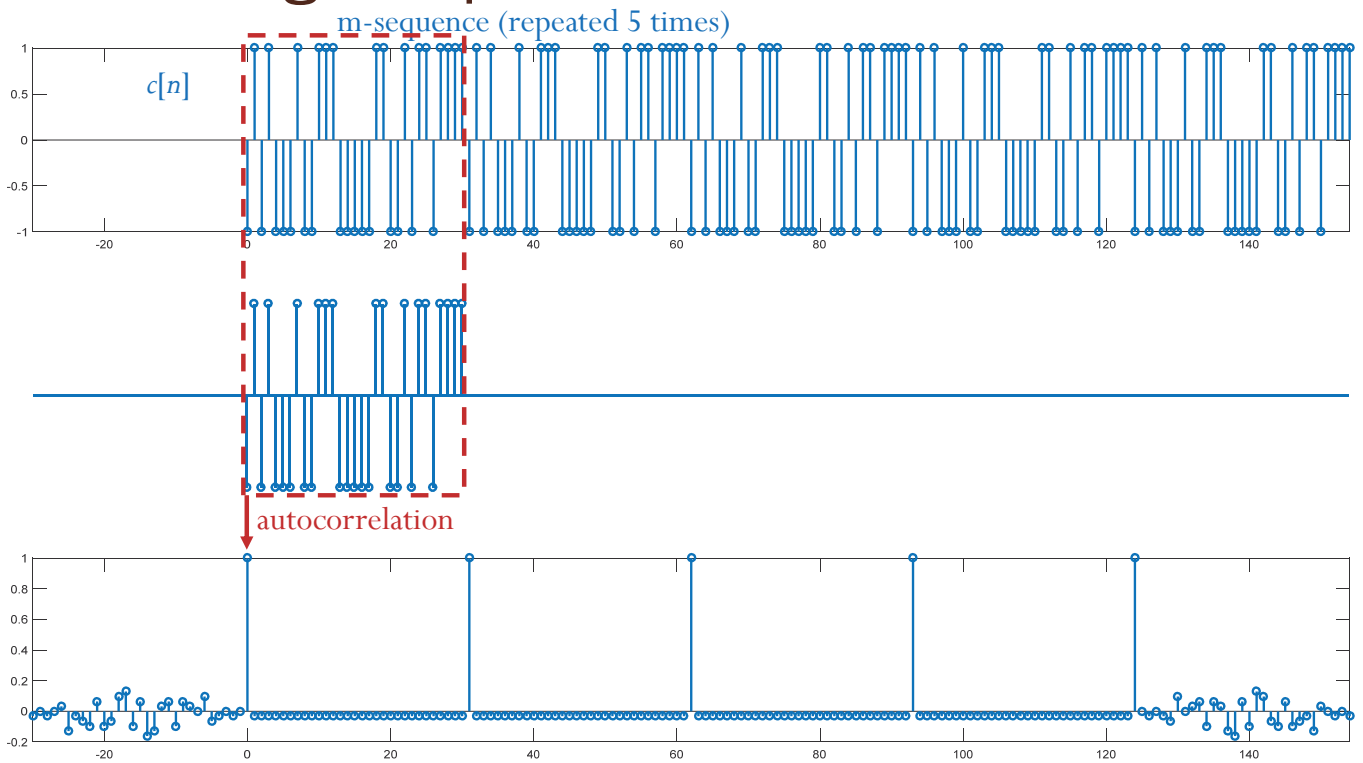
Sliding computation of autocorrelation



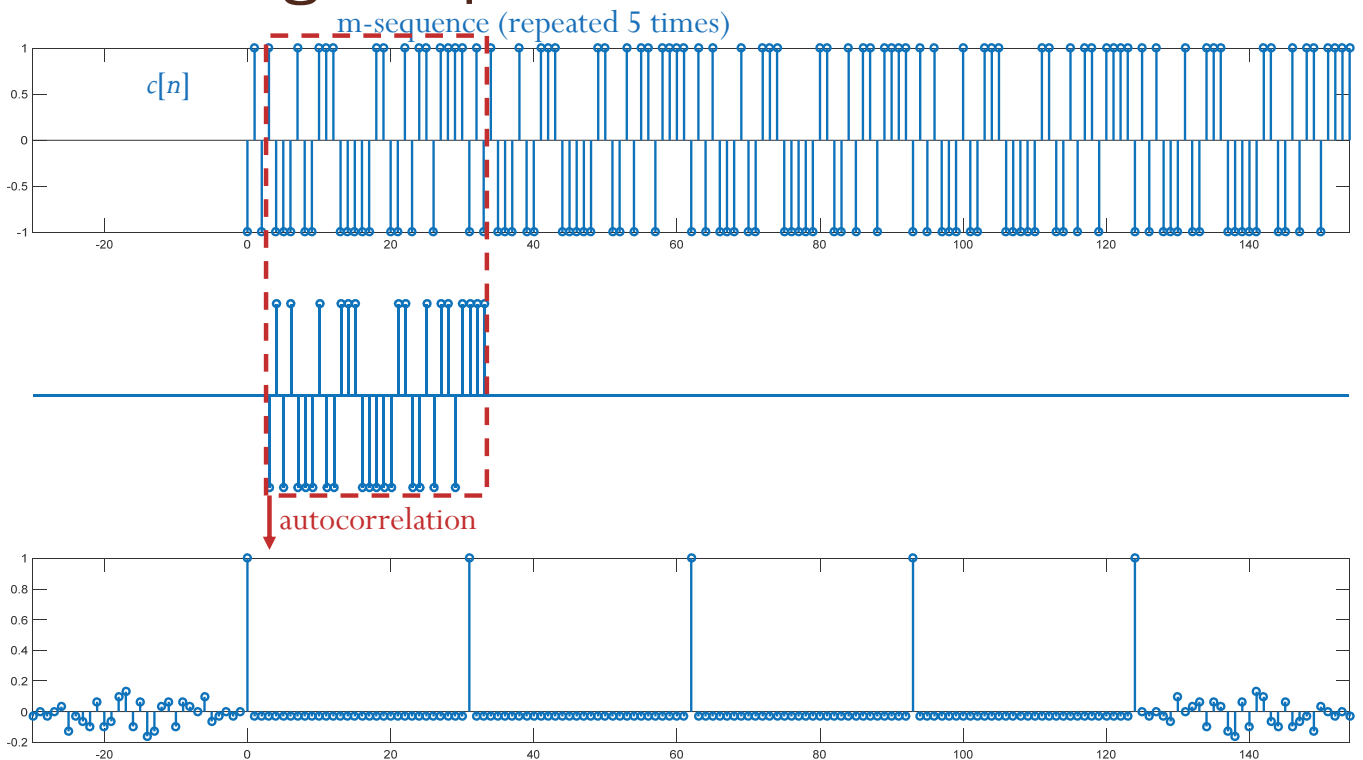
8



Sliding computation of autocorrelation

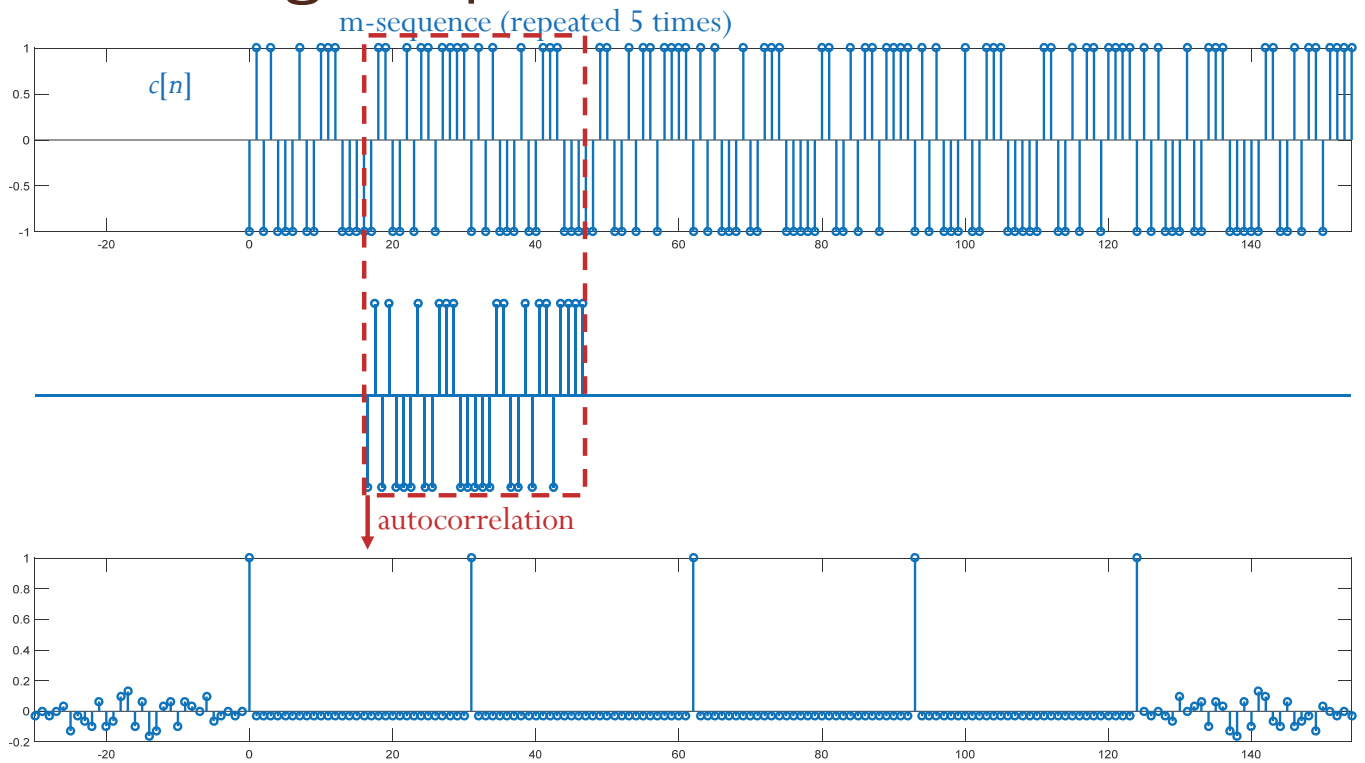


Sliding computation of autocorrelation





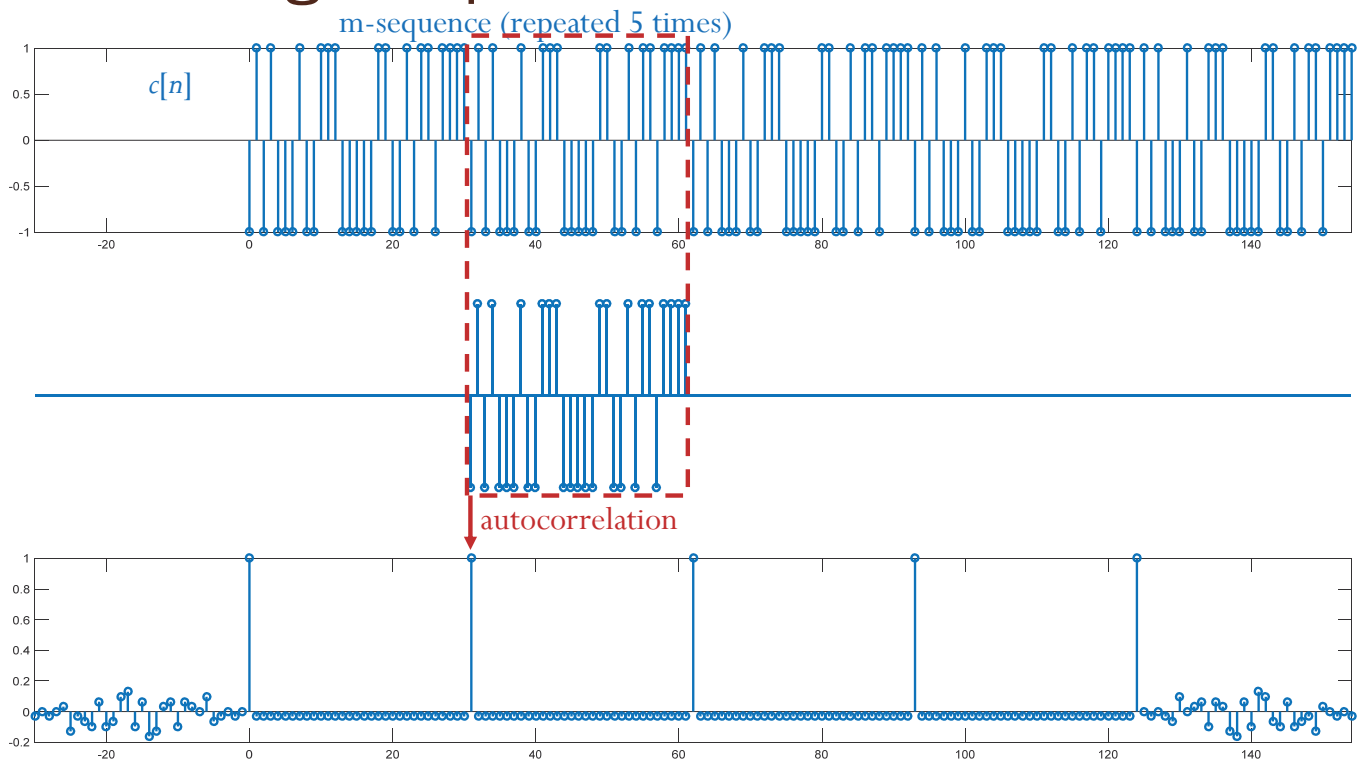
Sliding computation of autocorrelation



11



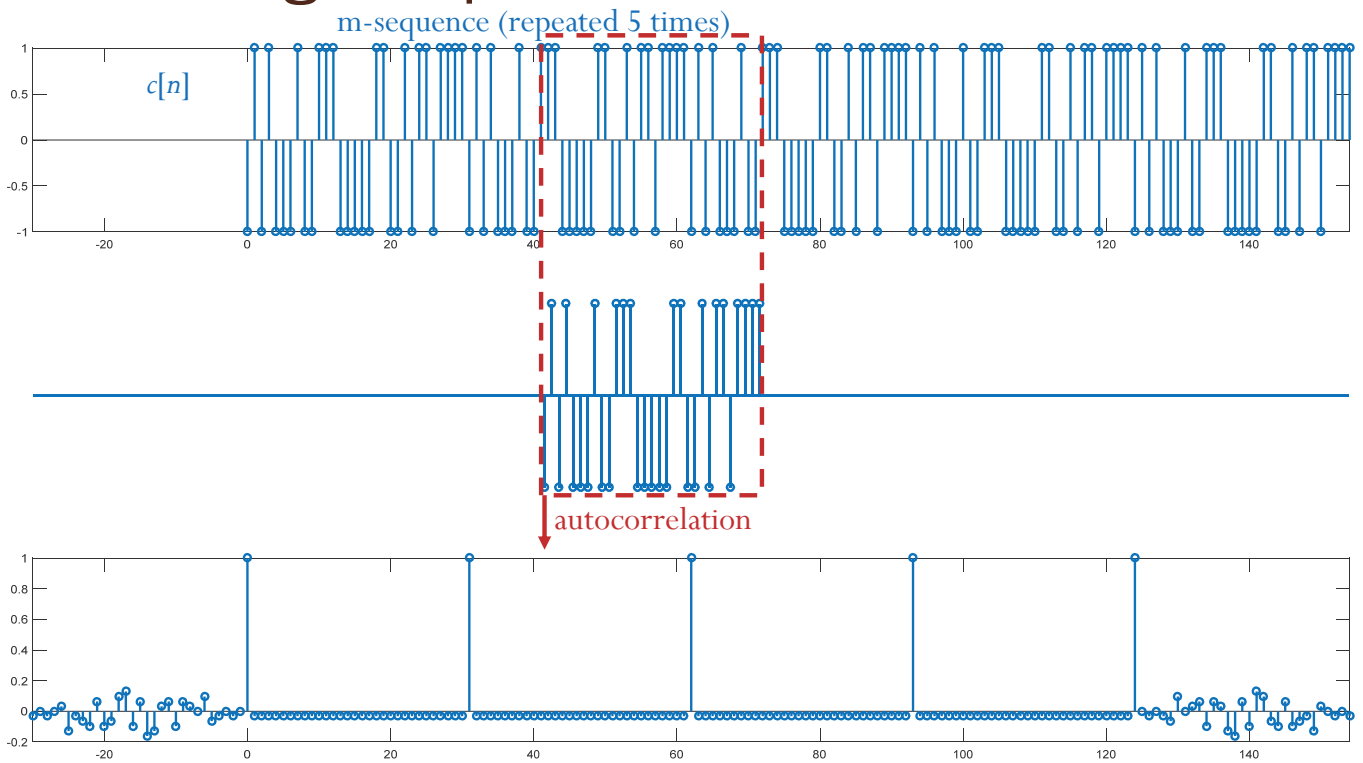
Sliding computation of autocorrelation



12



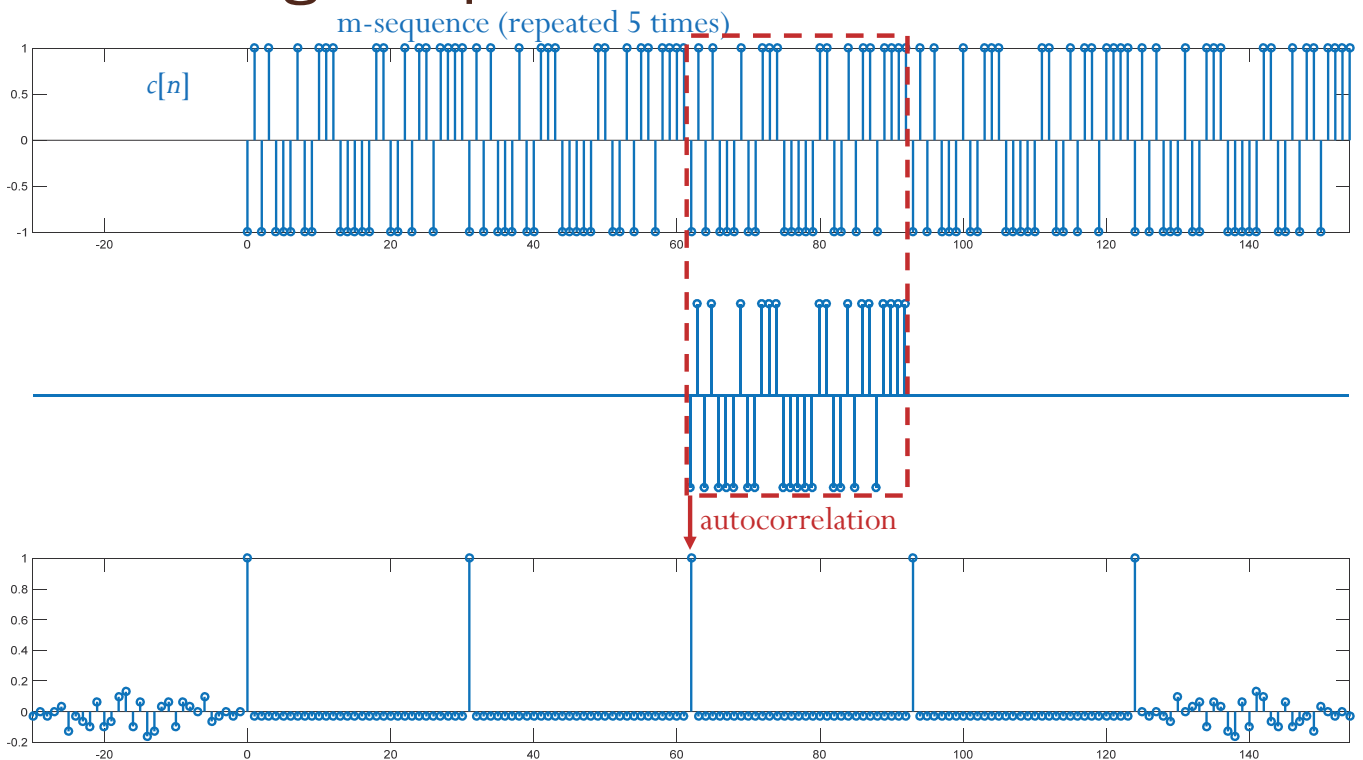
Sliding computation of autocorrelation



13



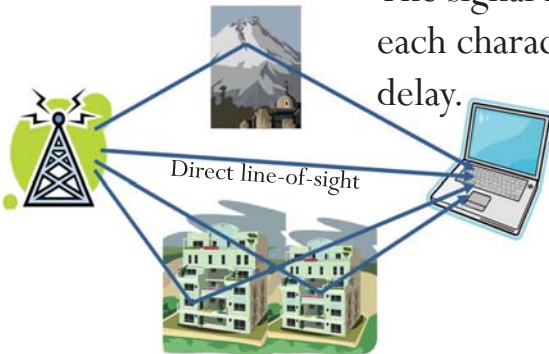
Sliding computation of autocorrelation



14

Wireless Comm. and Multipath Fading

The signal received consists of a number of reflected rays, each characterized by a different amount of attenuation and delay.

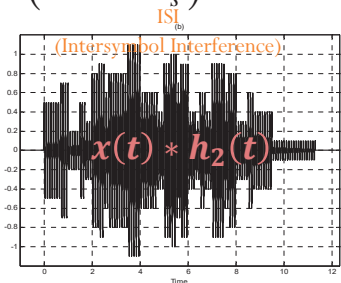
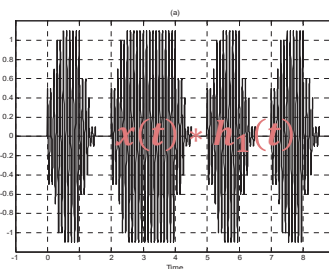
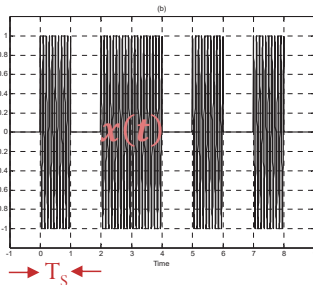


$$y(t) = x(t) * h(t) + n(t) = \sum_{i=0}^v \beta_i x(t - \tau_i) + n(t)$$

$$h(t) = \sum_{i=0}^v \beta_i \delta(t - \tau_i)$$

$$h_1(t) = 0.5\delta(t) + 0.2\delta(t - 0.2T_s) + 0.3\delta(t - 0.3T_s) + 0.1\delta(t - 0.5T_s)$$

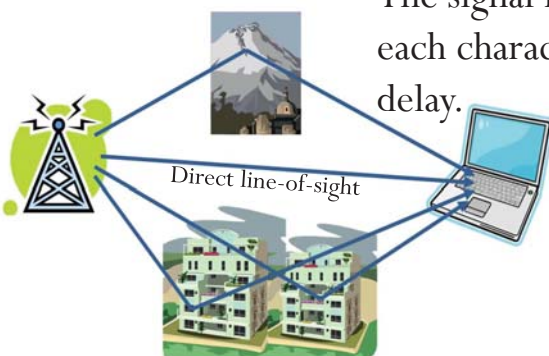
$$h_2(t) = 0.5\delta(t) + 0.2\delta(t - 0.7T_s) + 0.3\delta(t - 1.5T_s) + 0.1\delta(t - 2.3T_s)$$



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Wireless Comm. and Multipath Fading

The signal received consists of a number of reflected rays, each characterized by a different amount of attenuation and delay.



Here, let's consider the discrete-time version of fading:

$$y[n] = \sum_{i=0}^v \beta_i c[n - \tau_i]$$

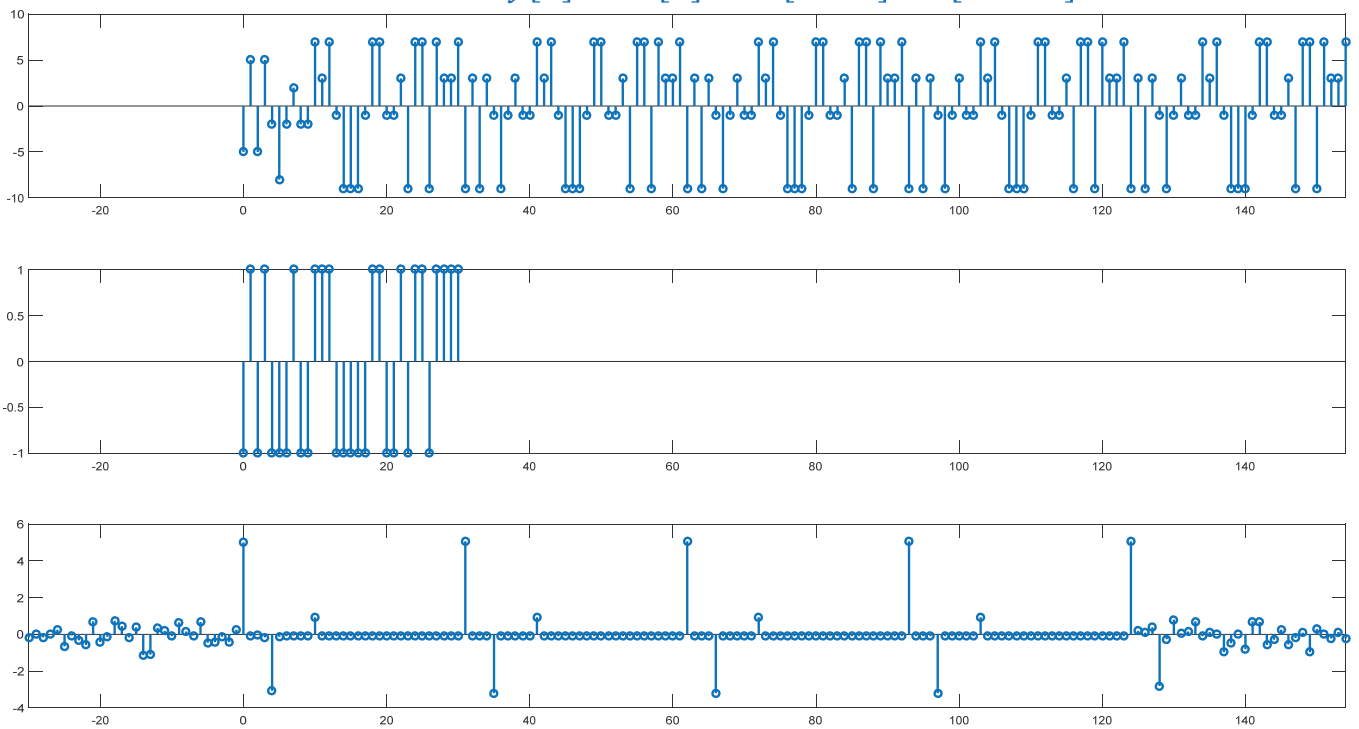
In particular, let's try

$$y[n] = 5c[n] - 3c[n - 4] + c[n - 10]$$

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Identifying Parameters of Multipath Fading via Autocorrelation

$$y[n] = 5c[n] - 3c[n - 4] + c[n - 10]$$

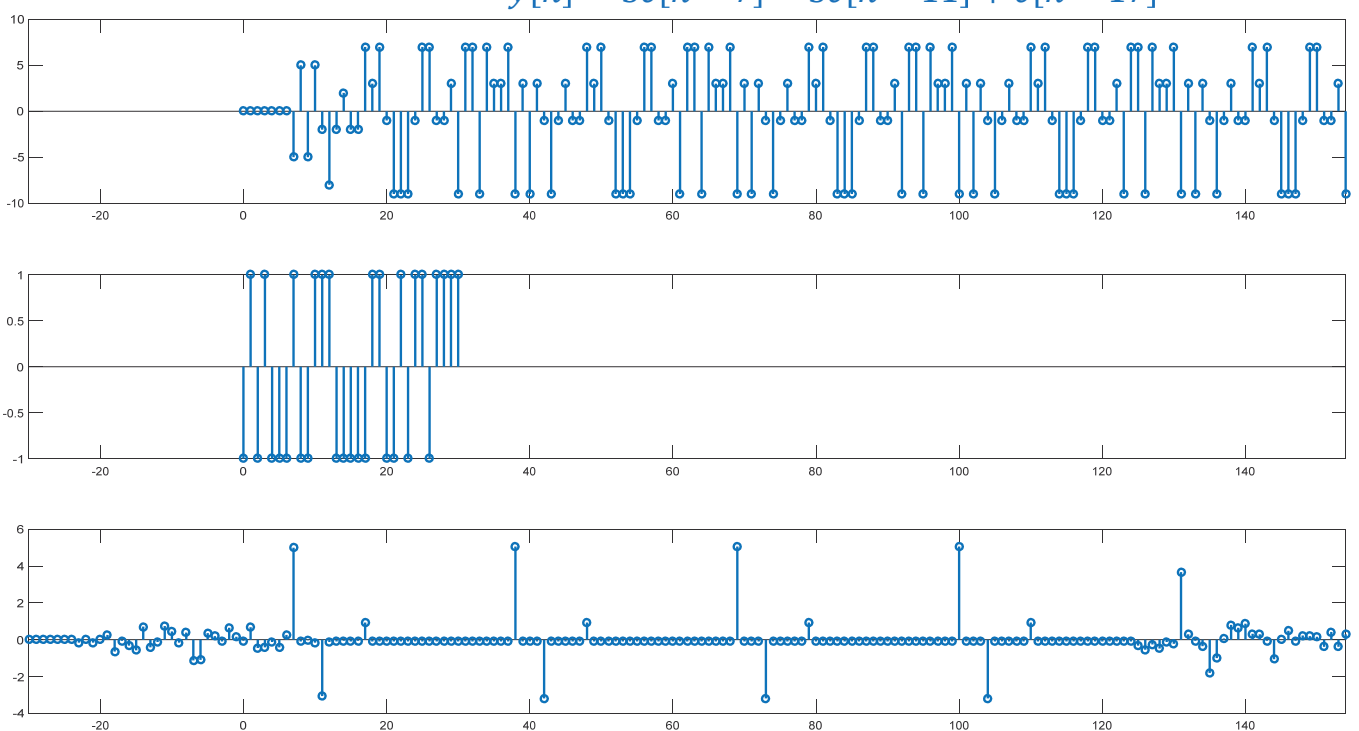


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Identifying Parameters of Multipath Fading via Autocorrelation



$$y[n] = 5c[n - 7] - 3c[n - 11] + c[n - 17]$$



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