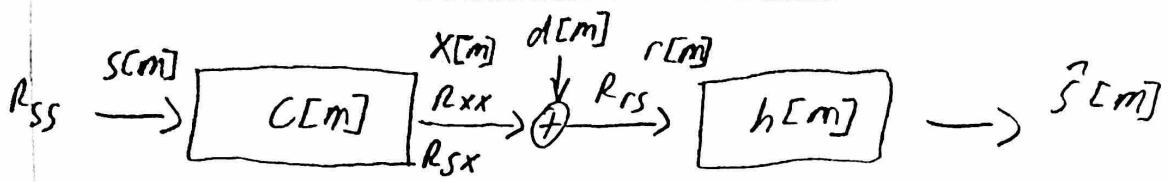

$$R_{xx}[k] = E[s[m]\, s[m+n]]$$

Bernoulli $R_{xx}[0] = 1$

$R_{xx}[1] = 0$

$L = 4$ $R_{xx}[2] = 0$

$m = 4-1$ $R_{xx}[3] = 0$

$$R_{rr}[m] = R_{dd}[m] + R_{xx}[m]$$

$$R_{xx}[m] = R_{ss}[m] * \bar{R}_{cc}[m]$$

$$R_{sx}[m] = R_{ss}[m] * c[m]$$

$$R_{rs} = R_{xs} = R_{ss} * c[m]$$

$$R_{rr} = R_{dd} + R_{ss} * \bar{R}_{cc}$$

$$R_{ss} * \bar{R}_{cc} = R_{xx}$$

$R_{dd} = \sigma^2$ (size of Gaussian)

$$R_{rr}[m] = R_{dd}[m] + R_{xx}[m]$$

$$\bar{R}_{cc} = c[m] * c[-m]$$

$$R_{rr}[m] = \sigma^2 + R_{ss}[m] * (c[m] * c[-m])$$

$$R_{sr}[m] = R_{ss}[m] * c[m] = R_{xs}[m]$$

$[.4 \;\; .28 \;\; 1.2 \;\; .28 \;\; .4]$ $R_{sr} = \begin{bmatrix} 1 \\ .2 \\ .4 \\ 0 \end{bmatrix}$

Convolution gives length 5,
truncate the last entry to get length 4

Based on (11.11)

Var = 1

$$\begin{bmatrix} 1+.4 & .28 & 1.2 & .28 \\ .28 & 1+.4 & .28 & 1.2 \\ 1.2 & .28 & 1+.4 & .28 \\ .28 & 1.2 & .28 & 1+.4 \end{bmatrix} \begin{bmatrix} h[0] \\ h[1] \\ h[2] \\ h[3] \end{bmatrix} = \begin{bmatrix} 1 \\ .2 \\ .4 \\ 0 \end{bmatrix}$$

solve for $h[m]$ with a left divide.

h_4 = [1.7736; 0.4795; -1.2264; -0.5205]