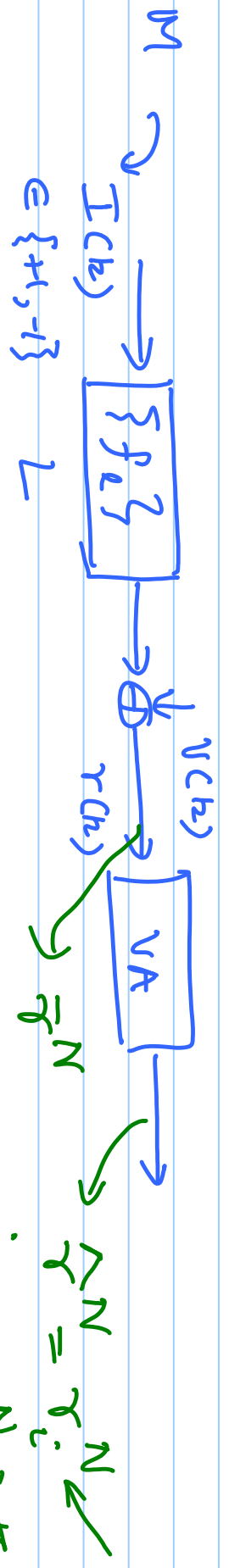
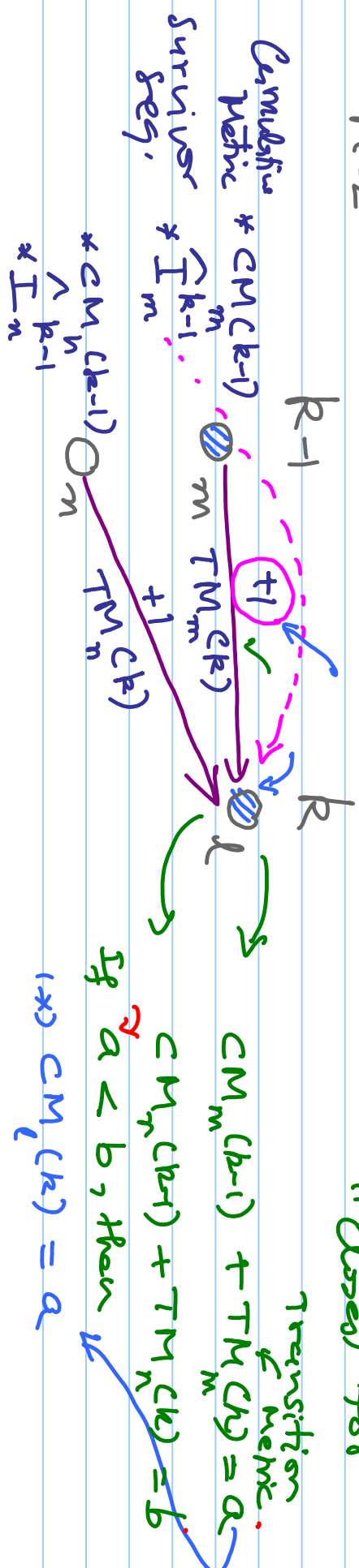


04-27, 2023

EE 4140



$M=2$



iff  $r_i^N$  is the "closed" for  $r_i^N$

Transition metric  $CM_m(k) + TM_m(k) = b$

If  $a < b$ , then

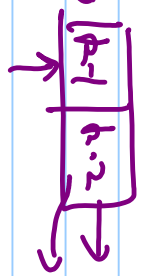
(\*)  $CM_q(k) = a$

$$(*) [1 \dots \hat{I}_m^{k-1}] \rightarrow \hat{I}_e^k$$

Another Example :

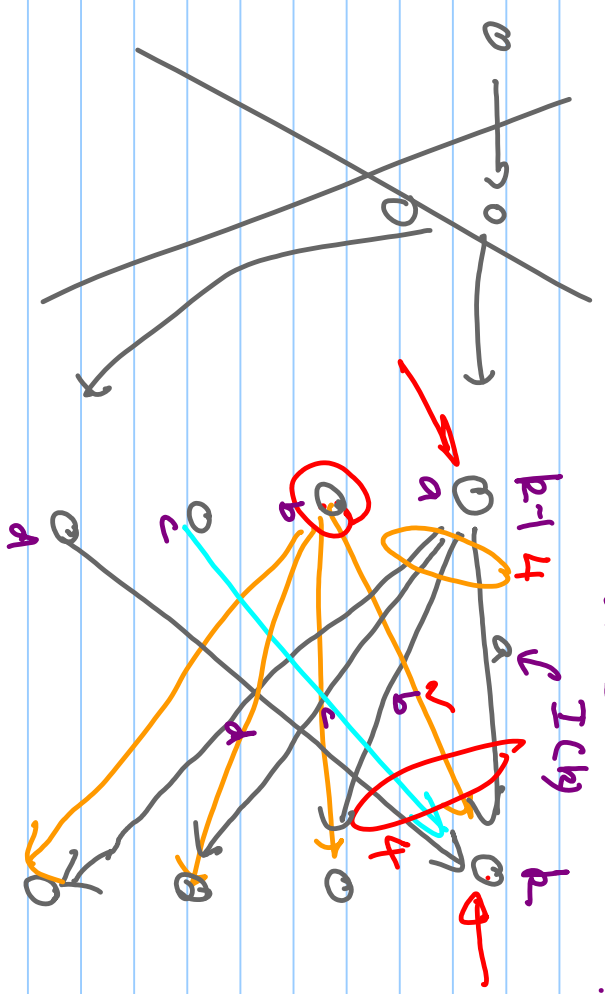
$I(1) \rightarrow QPSK ; L=2$

$\{1+j, 1-j, -1-j, -1+j\}$



$$M^{L-1} = 4^1 = 4^1$$

"push" bits  $L-1$



# Near-MLSE (Low Complexity VA)

→ MAPSE  
→ MAPSE

$M=4 ; L=7$

$\Rightarrow 4^6 \rightarrow 4^2$

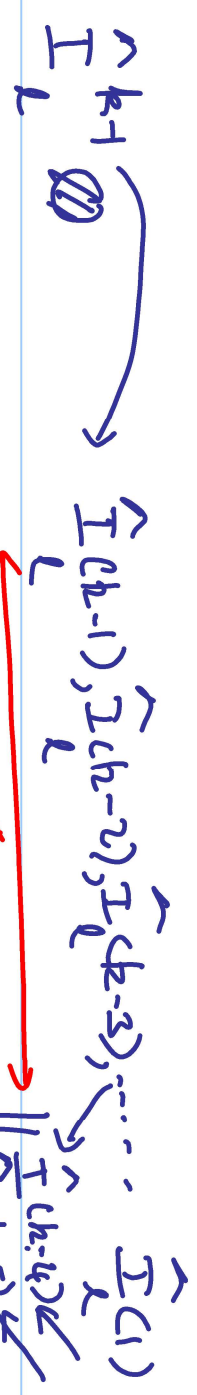
$4096$  states

$\sum_{i=0}^6 f_i^2 = 1$

$\sum_{i=0}^3 f_i^2 = 0.85$   
 $0.94$



$L-1 = 3$   
 $M = 4$   
 $= 64$



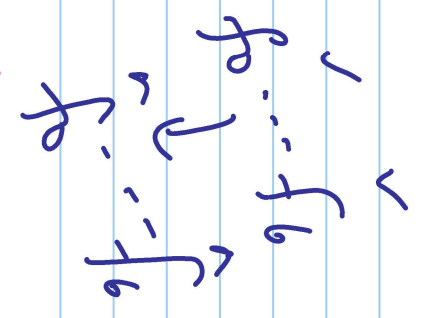
Decision Feedback =

$$E_L^{(k)} = \sum_{i=4}^6 f_i I_L^{(k-i)}$$

$$\alpha(k) = \epsilon_L$$

feedback

$$\tau_L(k) = \{f_0, f_1, f_2, f_3\}$$



$L=3$   
 $\tau_{15} = 35$

