EE 362 Spring 2019

Note Title 2/5/2019

$$y[n] = \left(x[n] + x[n-1] + x[n-2] + x[n-3]\right) / 4$$

4-point MAF

LTI

$$y[n] = w_0 x[n] + w_1 x[n-1] + w_2 x[n-2] + w_3 x[n-3]$$

$$w_0 > w_1 > w_2 > w_3 \quad \text{(1)}$$

$$w_0 + w_1 + w_2 + w_3 = 1 \quad \text{(2)}$$

EWMAF

$x[n]$ → system → $y[n]$

$\delta[n]$ → system → $h[n]$

$2\delta[n-1]$ → system → $2h[n-1]$ LTI

$4\delta[n] - 3\delta[n-5]$ → system → $f(4\delta[n]) + f(-3\delta[n-5])$

- $y[n] = \sum_{i=0}^{n} h[i]x[n-i]$

$n=0$ $\quad y[0] = h[0]x[0]$

$n=1$ $\quad y[1] = h[0]x[1] + h[1]x[0]$

$n=2$ $\quad y[2] = h[0]x[2] + h[1]x[1] + h[2]x[0]$

$n=3$ $\quad y[3] = h[0]x[3] + h[1]x[2] + h[2]x[1] + h[3]x[0]$

