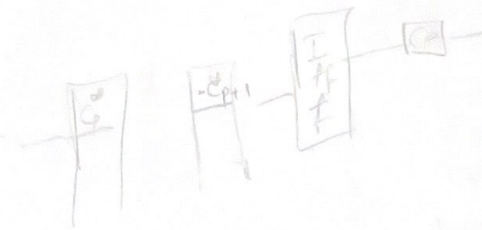
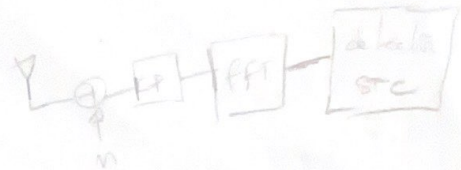
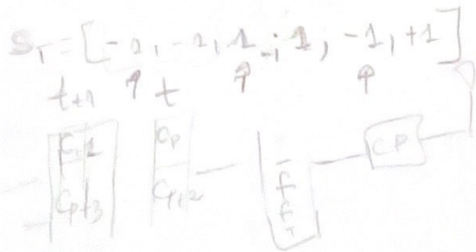


→ MIMO-OFDM

3 portadores



$$H_0 = \begin{bmatrix} 0.8 - 0.1j \\ 0.3 + 0.4j \\ 0.2 \end{bmatrix}$$

$n=0$

$$H = \begin{bmatrix} -0.1 - j0.2 \\ 0.1j \\ 0.7 - 0.4j \end{bmatrix}$$

$$\begin{matrix} C_1 = -1 & -C_2^* = -1 \\ C_2 = -1 & C_1^* = -1 \end{matrix}$$

$$C_1 = -2$$

$$S_{Rk} = H_{0k} C_p - H_{1k} C_{p+1} + n_k$$

$$S_{Rk+1} = H_{0k} C_{p+1} + H_{1k} C_p$$

$$S_R = \begin{bmatrix} (0.8 - 0.1j)(-1) - (-0.1 - j0.2)(-1) & (0.3 + 0.4j)(-1) + (-0.1 - 0.2j)(-1) \\ (0.3 + 0.4j)(-1) - (0.1j)(1) & (0.8 - 0.1j)(1) + (-0.1 - 0.2j)(1) \\ 0.2(-1) - (0.7 - 0.4j)(1) & (0.3 + 0.4j)(1) + (0.1 - 0.2j)(-1) \end{bmatrix}$$

$$S_R = \begin{bmatrix} -0.9 - 0.12i & -0.7 + 0.3i \\ 0.3 - 0.2i & 0.3 + 1i \\ -0.9 + 0.1i & -0.5 + 0.4i \end{bmatrix}$$

$$\hat{Q}(k) = H_0^* R_0 + H_1^* R_1$$

operaco realizada em
matlab com os dados

$$C_{k+1} = H_0^* R_1 - H_1^* R_0$$

$$C_k = \begin{bmatrix} -0,7 \\ 0,61 \\ -0,69 \end{bmatrix}$$

na so de detector

$$C_{k+1} = \begin{bmatrix} -0,7 \\ 0,61 \\ 0,69 \end{bmatrix}$$

$$C = \begin{bmatrix} -0,7 \\ -0,7 \\ 0,61 \\ 0,61 \\ -0,69 \\ 0,69 \end{bmatrix}$$

$$H_{eq} = |H_0|^2 + |H_1|^2$$

$$= \begin{bmatrix} 0,65 \\ 0,25 \\ 0,04 \end{bmatrix} + \begin{bmatrix} 0,05 \\ 0,36 \\ 0,65 \end{bmatrix} = \begin{bmatrix} 0,7 \\ 0,61 \\ 0,69 \end{bmatrix}$$

$$\tilde{C}_k = C_k / H_{eq} = \begin{bmatrix} -1 \\ 1 \\ -1 \end{bmatrix}$$

$$\tilde{C}_{k+1} = C_{k+1} / H_{eq} = \begin{bmatrix} -1 \\ 1 \\ 1 \end{bmatrix}$$

Reordenando smbolos temos

$$C = [-1 \ -1 \ 1 \ 1 \ -1 \ 1] \rightarrow \text{deteco correta}$$