



Homeworks

- (1) Is it possible to increase channel capacity by channel coding?
- (2) Find channel capacities for deterministic multiple antenna channels when SNR = 10dB (=10) and channel matrices are

(a) $H = [1]$ (SISO)

(b) $H = \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}$ (SIMO)

(c) $H = [1 \ 1 \ 1]$ (MISO)

(d) $H = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ (MIMO) (rank(H) = 3, all three eigenvalues are 1)