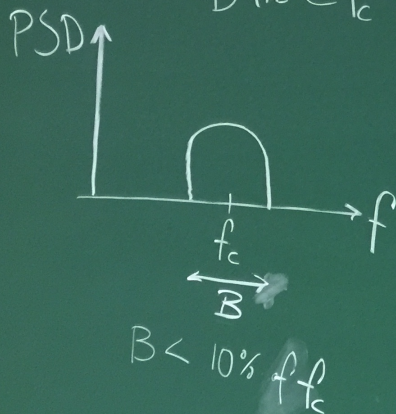


30 Jan 2018

$$R_{\max} = \overset{\text{MIMO}}{n} B \log_2(1 + \overset{\text{linear}}{\text{SNR}}) \text{ b/s/Hz}$$

Shannon limit

B Hz @ f_c



✓ $\log_2 M$ → M-ary modulation
 Ex: 64QAM → 6

LTE: 20 MHz
 2x2
 64QAM } 120 Mbps

- $n \uparrow$
- $B \uparrow$
- $\text{SNR} \uparrow (P_{\text{Tx}} \uparrow)$

none of them scales well