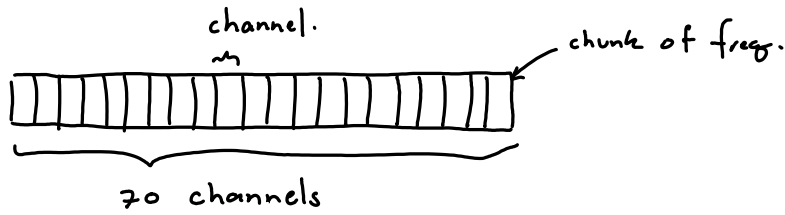


Lecture 6

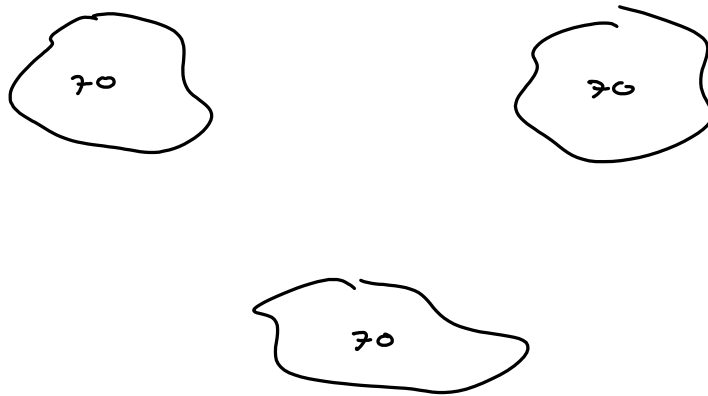
Friday, November 26, 2010
2:07 PM

Lecture 6

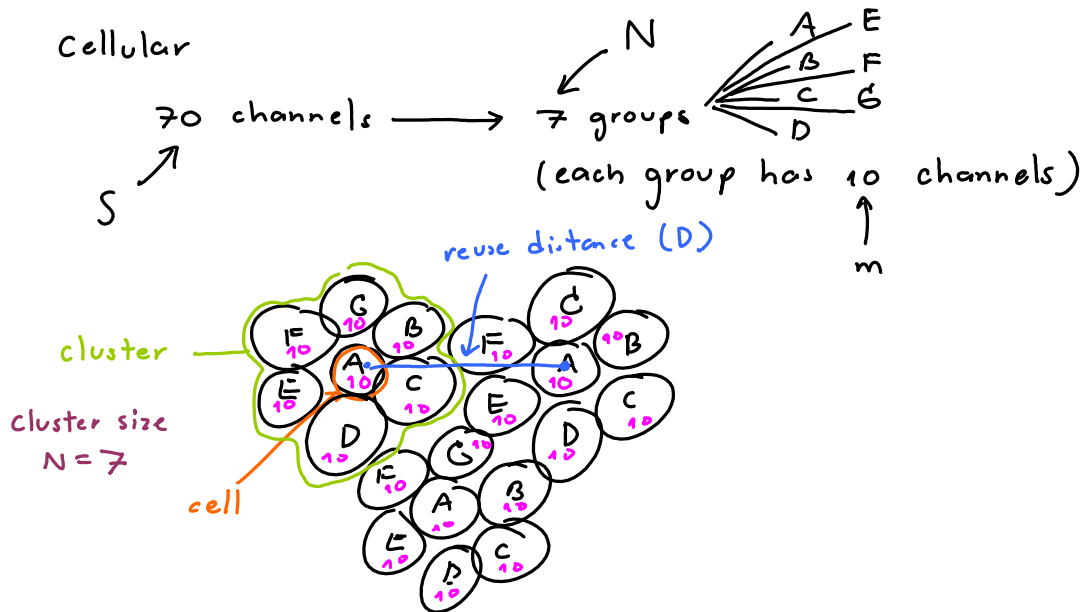
Chapter 2 Cellular System



pre-cellular



2.1 "Frequency Reuse" Concept



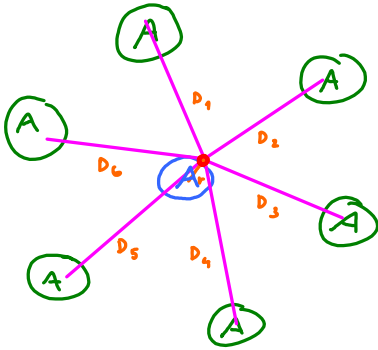
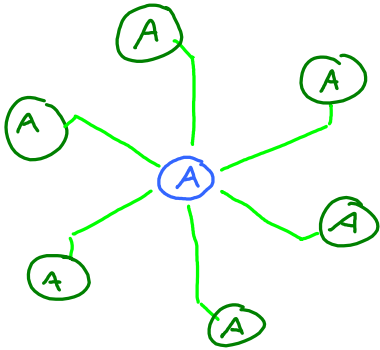
Remarks

- The cells that use group A of frequency bands are far apart.

- ⇒ less interference (received power $\propto \frac{1}{d^{\alpha}}$)
- Cells can overlap. ⇒ cover whole region w/o blank spot.
- Increase capacity ← smaller cell size.
- Problem: More BS's ⇒ spend a lot more money.

Lecture 7 (Nov 30)

Cochannel Interference



Assumption:

we will ignore cells that are too far away.



only first-tier co-channels are considered.

Recall: $P_r \propto \frac{1}{D^{\alpha}}$

$$SIR = \frac{s \leftarrow \text{Signal}}{\sum_i I_i \leftarrow \text{Interference}}$$