TCP/IP ↔ UDP/IP

latency

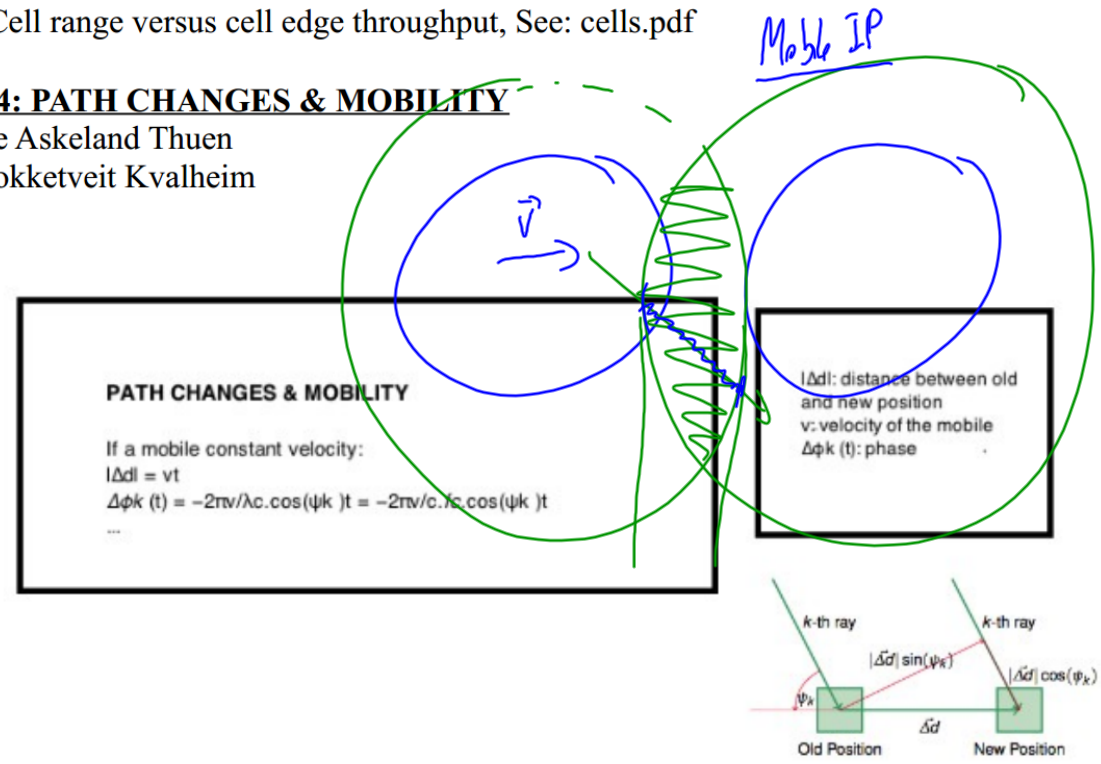
cwi.unik.no/images/Semin | cwi.unik.no/images/Mobil

cwi.unik.no/images/Seminar_Outline.pdf

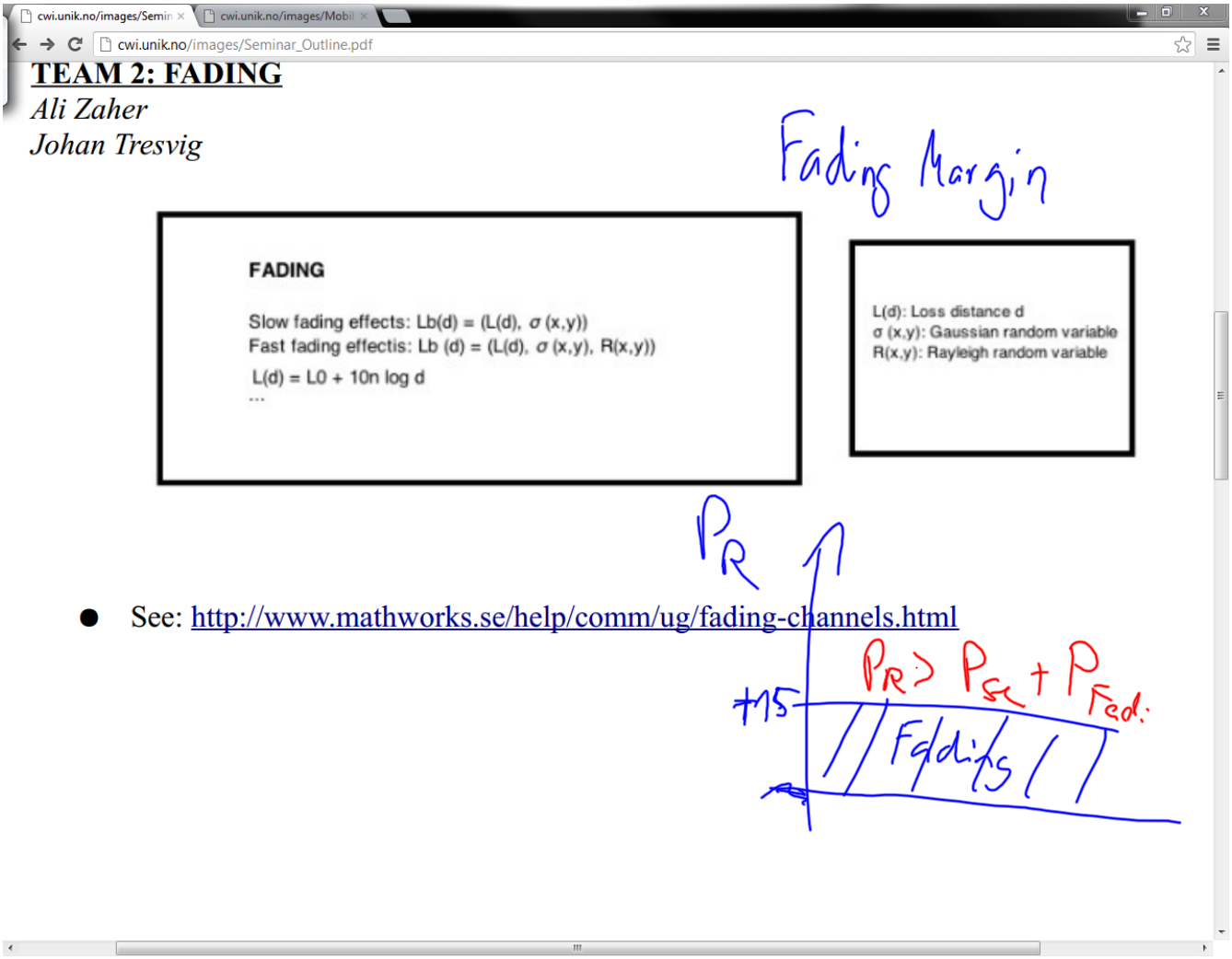
- Cell range versus cell edge throughput, See: cells.pdf

TEAM 4: PATH CHANGES & MOBILITY

Christine Askeland Thuen
Hege Flokketveit Kvalheim

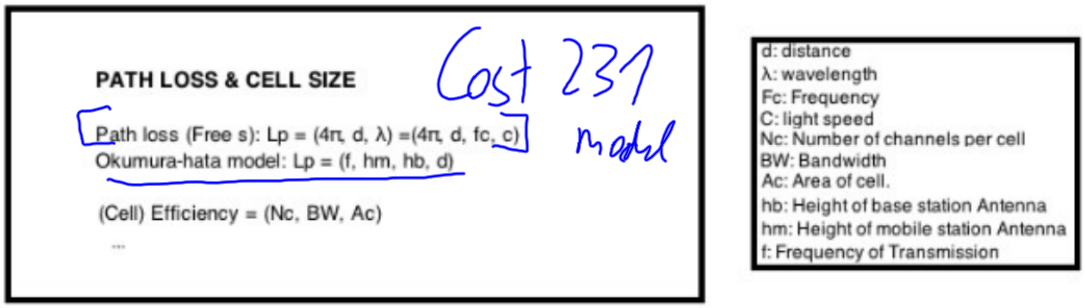


- *Path-Changes Induced by Mobility,* See: Mobility.pdf (page 41-47)


cwi.unik.no/images/Semin
cwi.unik.no/images/Mobil
cwi.unik.no/images/Seminar_Outline.pdf
TEAM 2: FADING
Ali Zaher
Johan Tresvig
Fading Margin
FADING
Slow fading effects: Lb(d) = (L(d), σ (x,y))
Fast fading effectis: Lb (d) = (L(d), σ (x,y), R(x,y))
L(d) = L0 + 10n log d
...
L(d): Loss distance d
σ (x,y): Gaussian random variable
R(x,y): Rayleigh random variable
See: http://www.mathworks.se/help/comm/ug/fading-channels.html
PR
+15
PR > Psc + PFad.
Fadings

cwi.unik.no/images/Semin | cwi.unik.no/images/Mobil

cwi.unik.no/images/Seminar_Outline.pdf



- *Free Space:* Lp = (4πd/λ)^2 = (4πdf/c)^2
- *Hata Model for Urban Areas:* Lpu = 69.55 + 26.16 log f – 13.82 log hb – Ch + (44.9 – 6.55log hb)log d
- *Hata Model for Suburban Areas:* Lpsu = Lpu – 2 (log (f/28))^2 – 5.4
- *Hata Model for Open Areas:* Lpo = Lpu – 4.78(logf)^2 + 18.33 log f – 40.94
- See: http://www.mathworks.com/matlabcentral/fileexchange/2096-rf-wave-toolbox/content/RFWave/hata.m

- Cell range versus cell edge throughput, See: cells.pdf

TEAM 4: PATH CHANGES & MOBILITY
Christine Askeland Thuen
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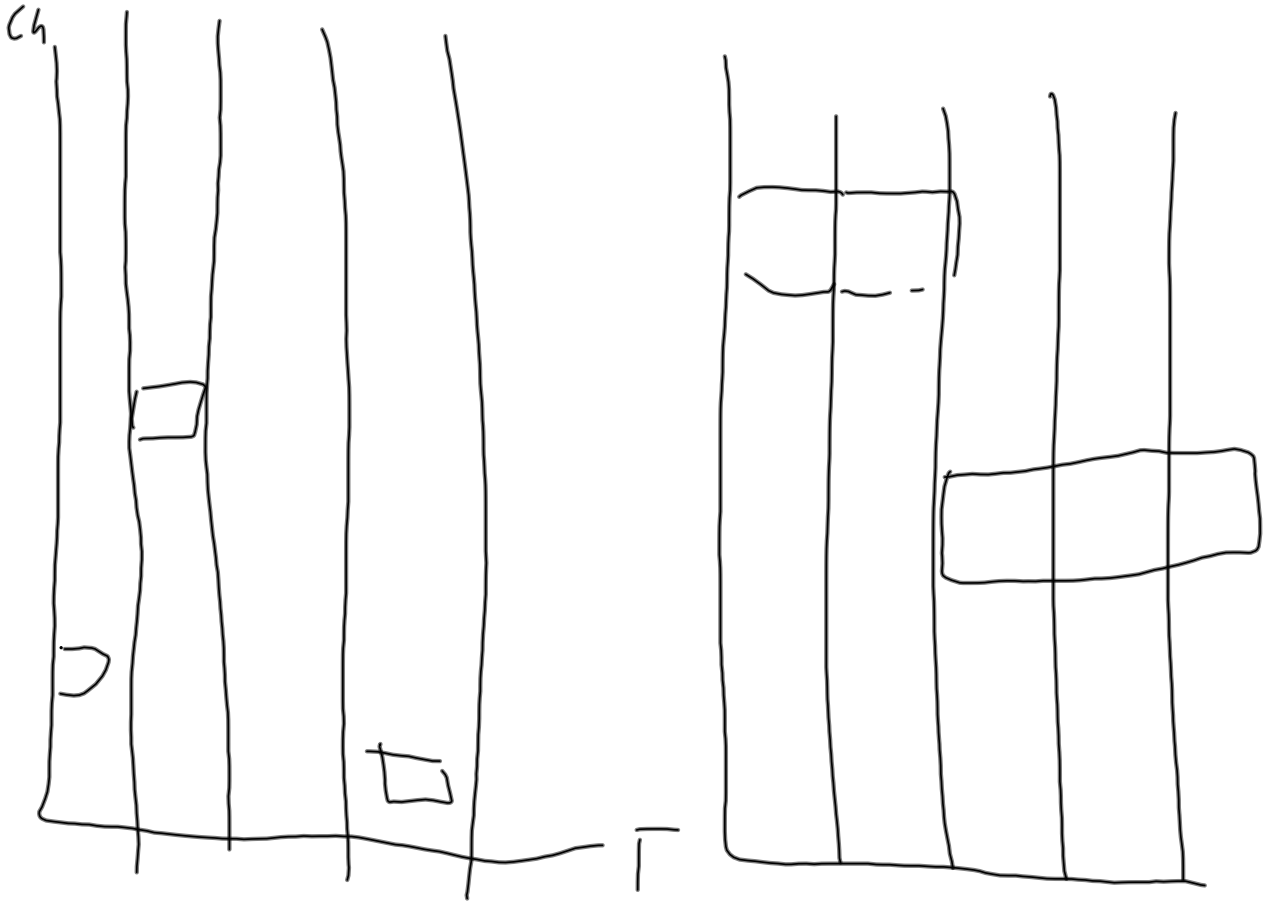
Frame output conf files

Susana

Doppler

Timing Advance


Ch

WiMAX

L-band 1.2 GHz

S 2-4 Radar receiver sens

3.1-3.4 GHz > 1 kW → 4-6 MW ~ -95..-105 dBm

C 5... 1E6 mW

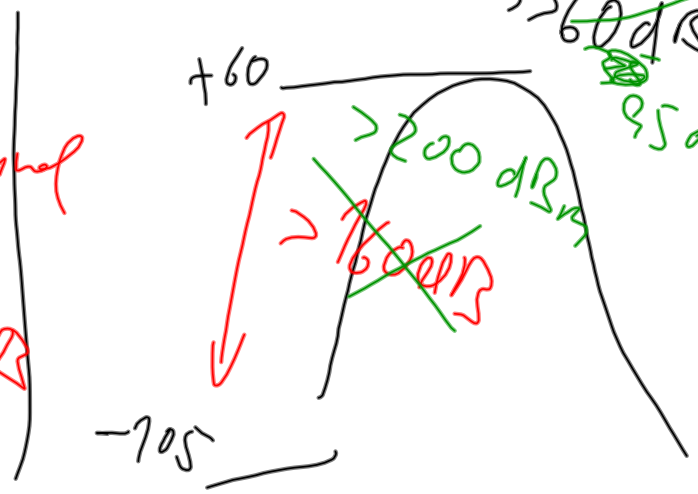
>>60 dBm

95 dBm

UMTS

neighbour channel separation

handset -15 dB



WiMAX

Standard BS, 60° | $P_I = 27\ dBm$

90° → 48.5 km

3.3 GHz $P_t = 20\ dBm$ $G_T = 14\ dB$ $G_R = 17\ dB$

LOS < 6-7 km

OLOS < 3.5 km

$P_S \sim CPE$?

Gut