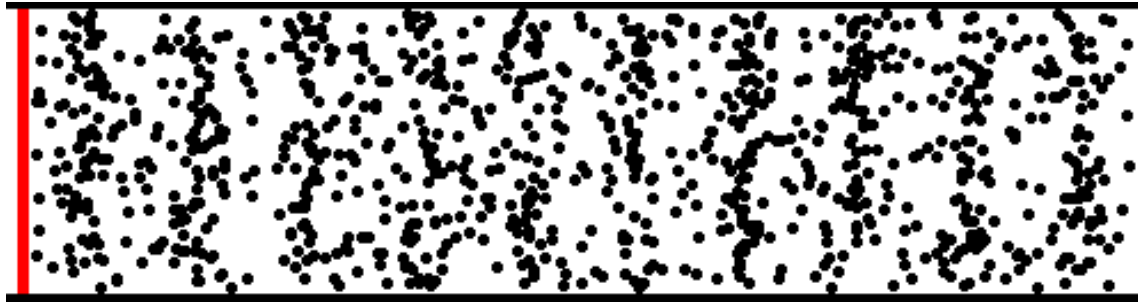


Støj (fra fly)

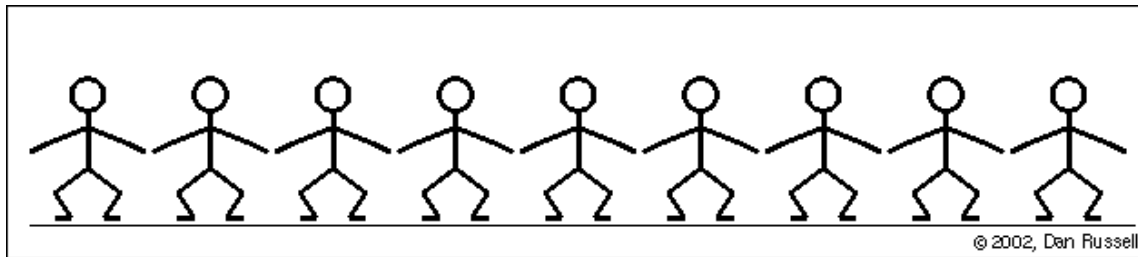
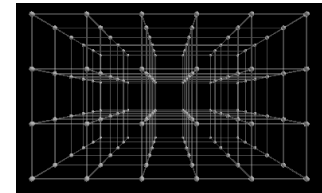
Borgermøde vedr. Flyvning med veteranfly på tidligere Flyvestation
Værløse, 24. juni 2019

Hvad er lyd ?

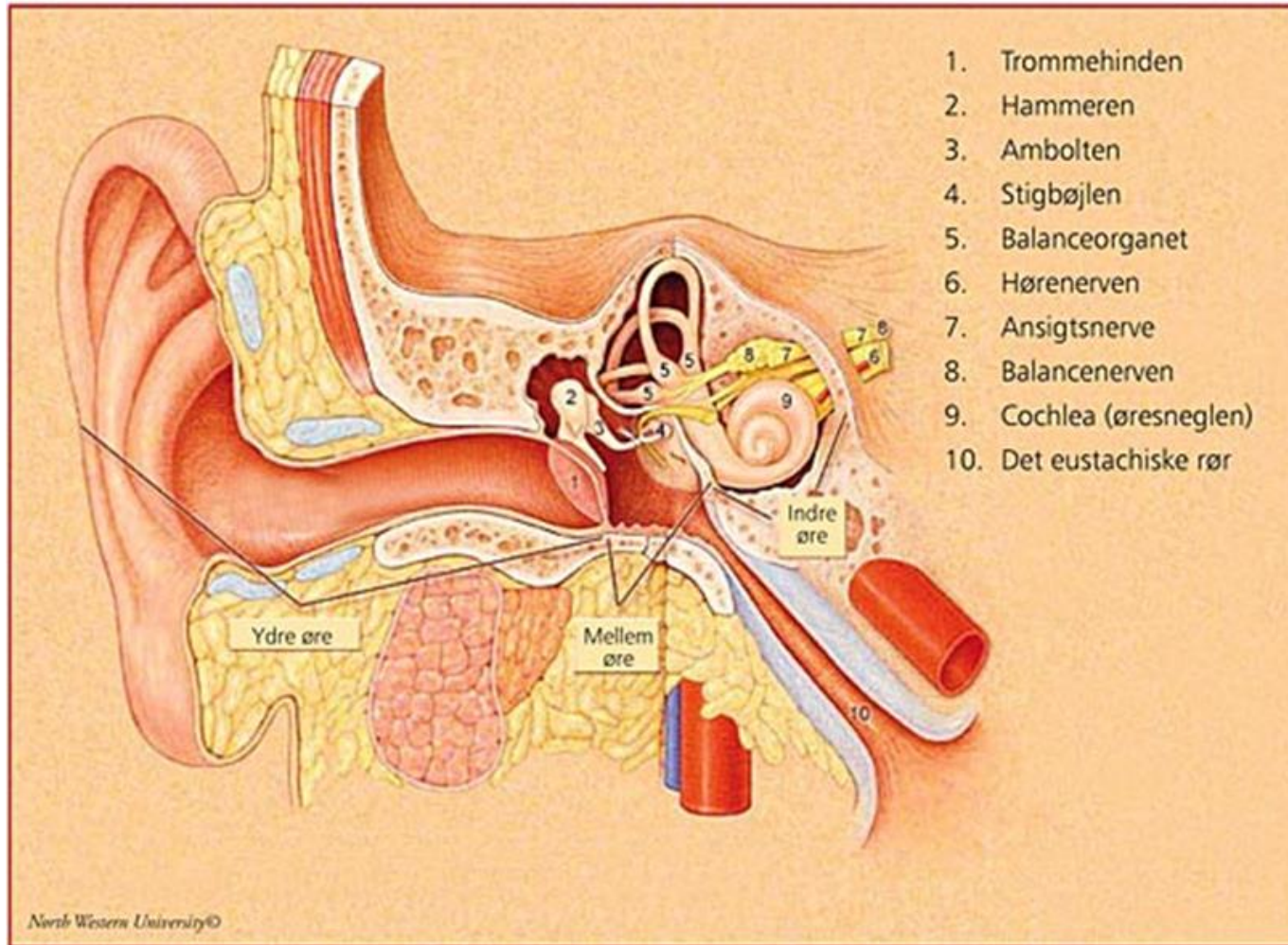
- Lyd er svingninger, der udbreder sig



- Lyd transporterer **ikke** masse eller materiale
- Lyd transporterer energi



Øret



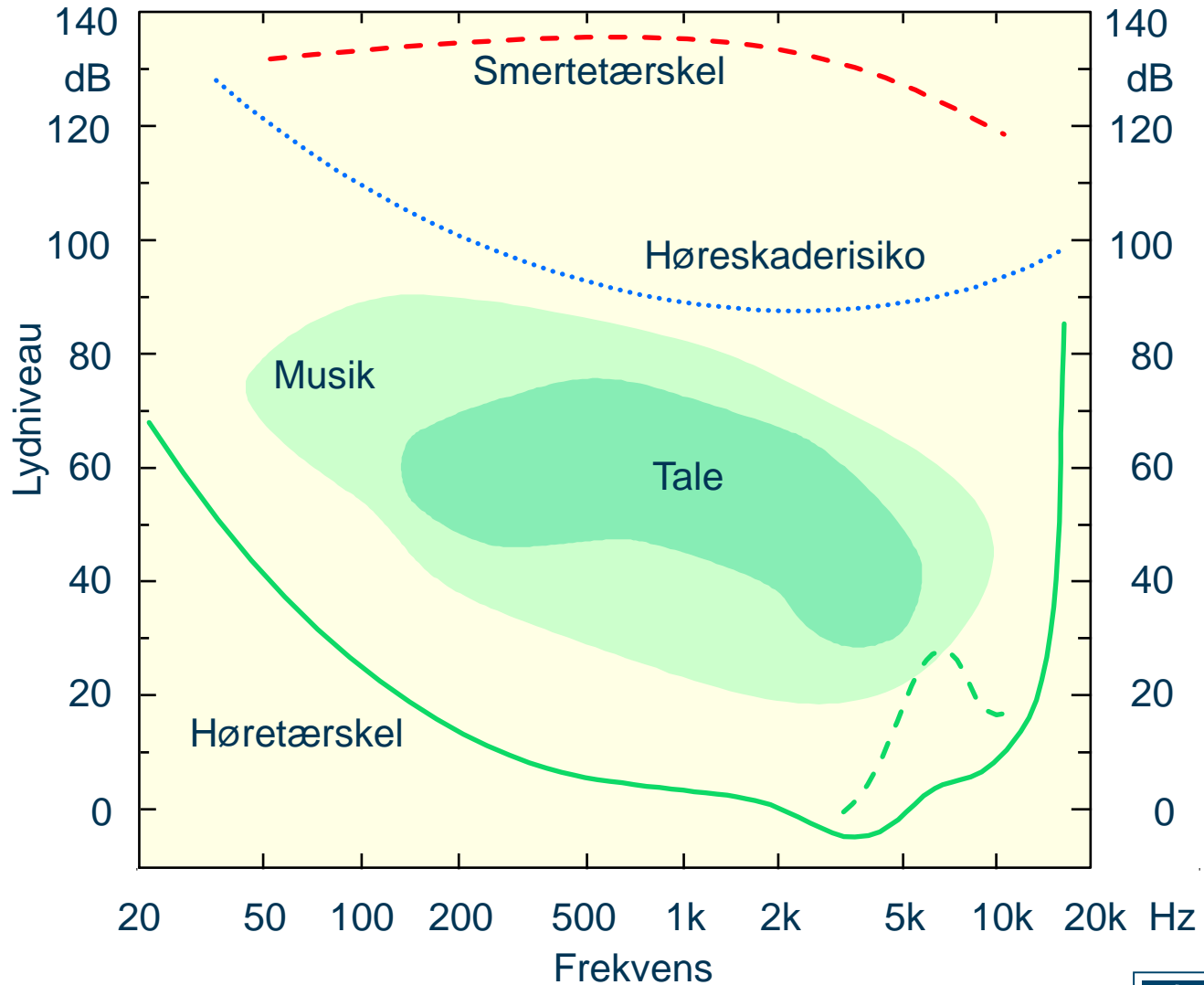
Ørets dynamikområde



50Hz

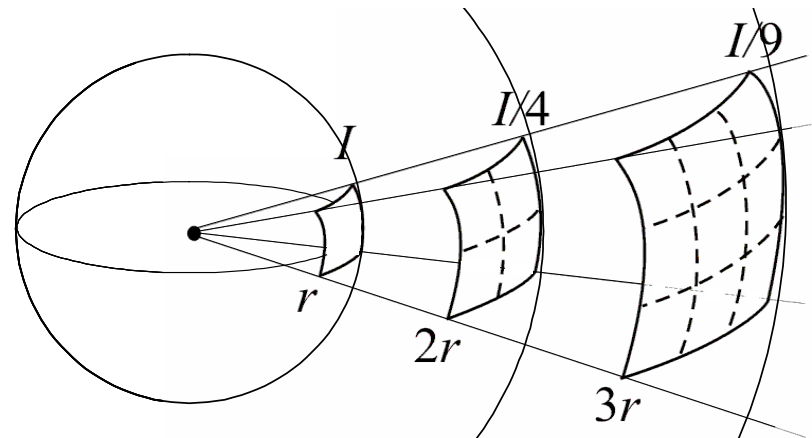
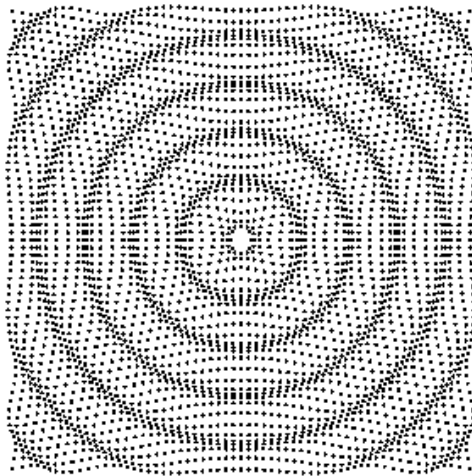


10kHz



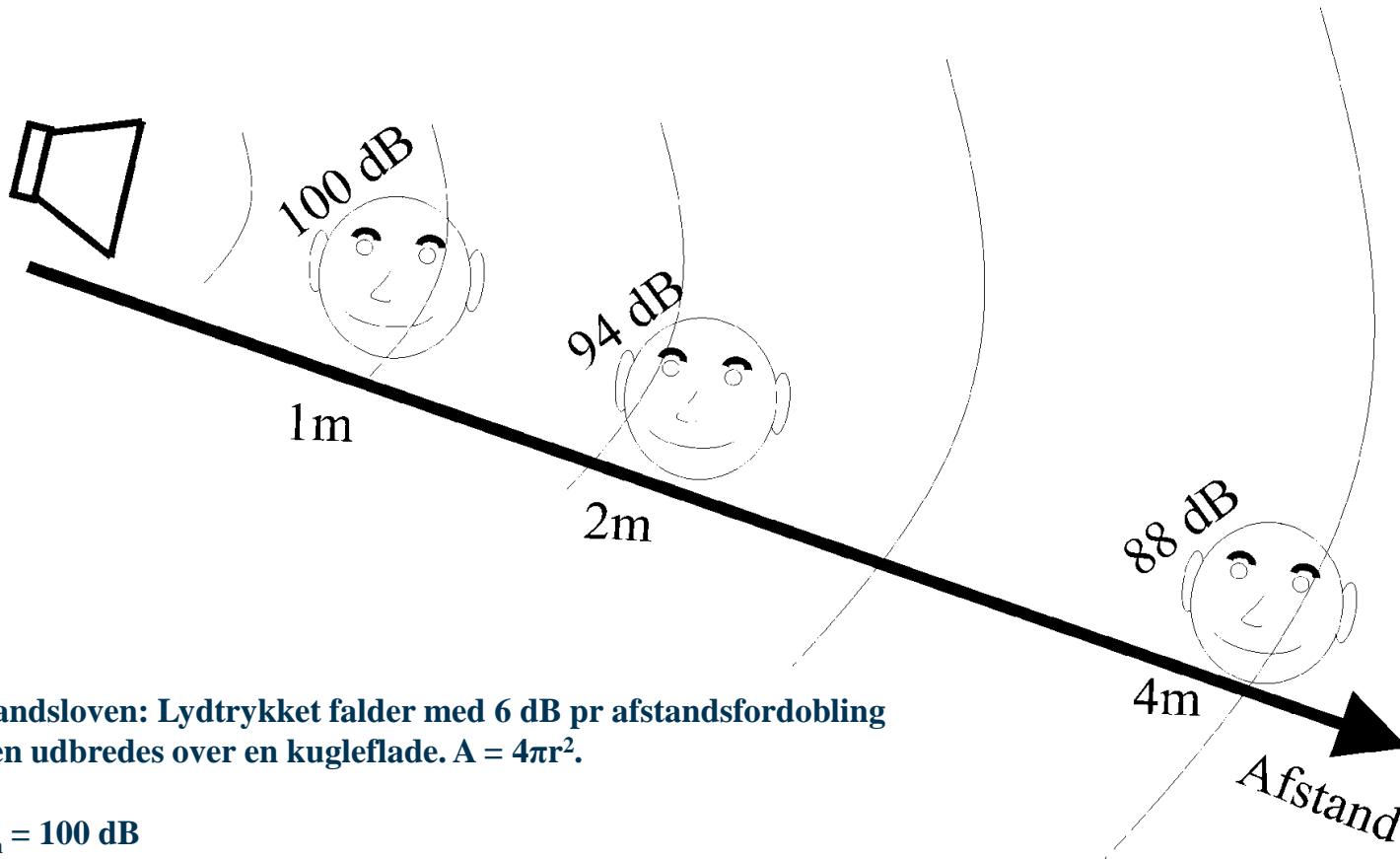
Stop

Lyd er "fortyndes"



Lydintensiteten "fortyndes" med kvadratet på afstanden til kilden. En kugles overfladeareal er $A=4\pi r^2$. Dette giver afstandsloven om at lyden aftager med 6 dB pr. afstandsfordobling.

Afstandsloven - punktkilde



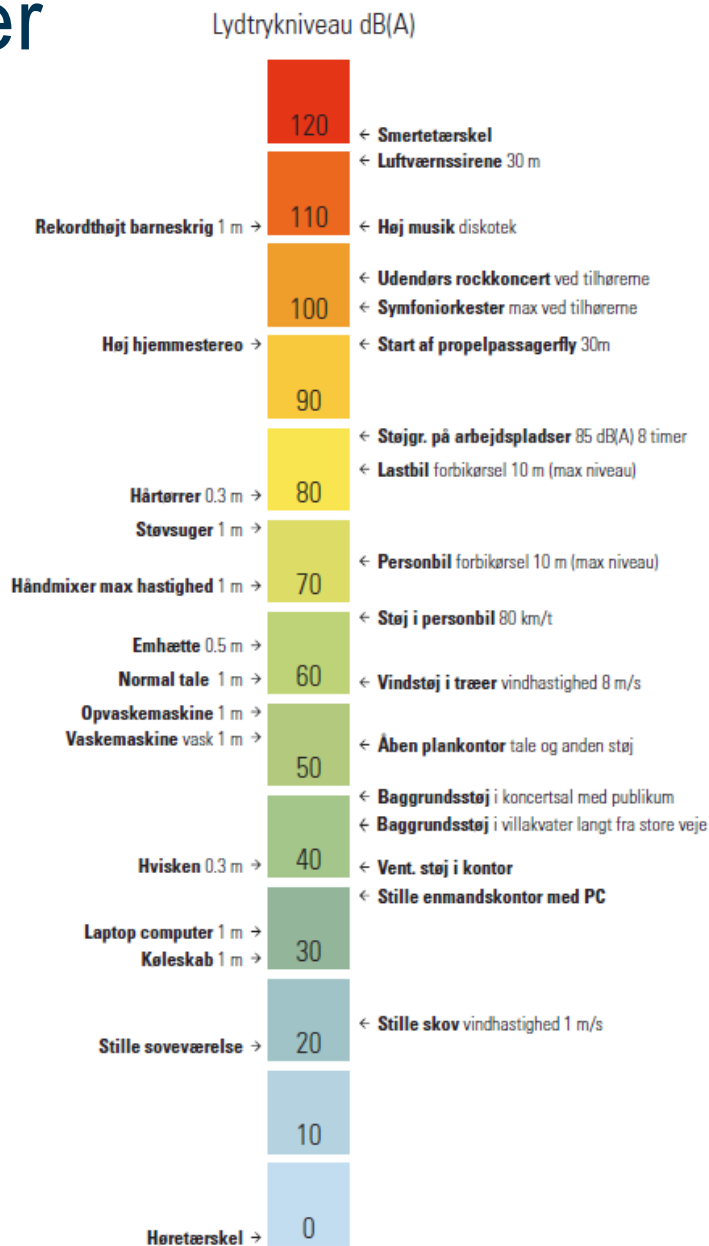
Afstandsloven: Lydtrykket falder med 6 dB pr afstandsfordobling
Lyden udbredes over en kugleflade. $A = 4\pi r^2$.

$$L_{p,1m} = 100 \text{ dB}$$

$$L_{p,2m} = L_{p,1m} - 10\text{Log}(2^2) = 100 - 6 = 94 \text{ dB}$$

$$L_{p,4m} = L_{p,1m} - 10\text{Log}(4^2) = 100 - 12 = 88 \text{ dB}$$

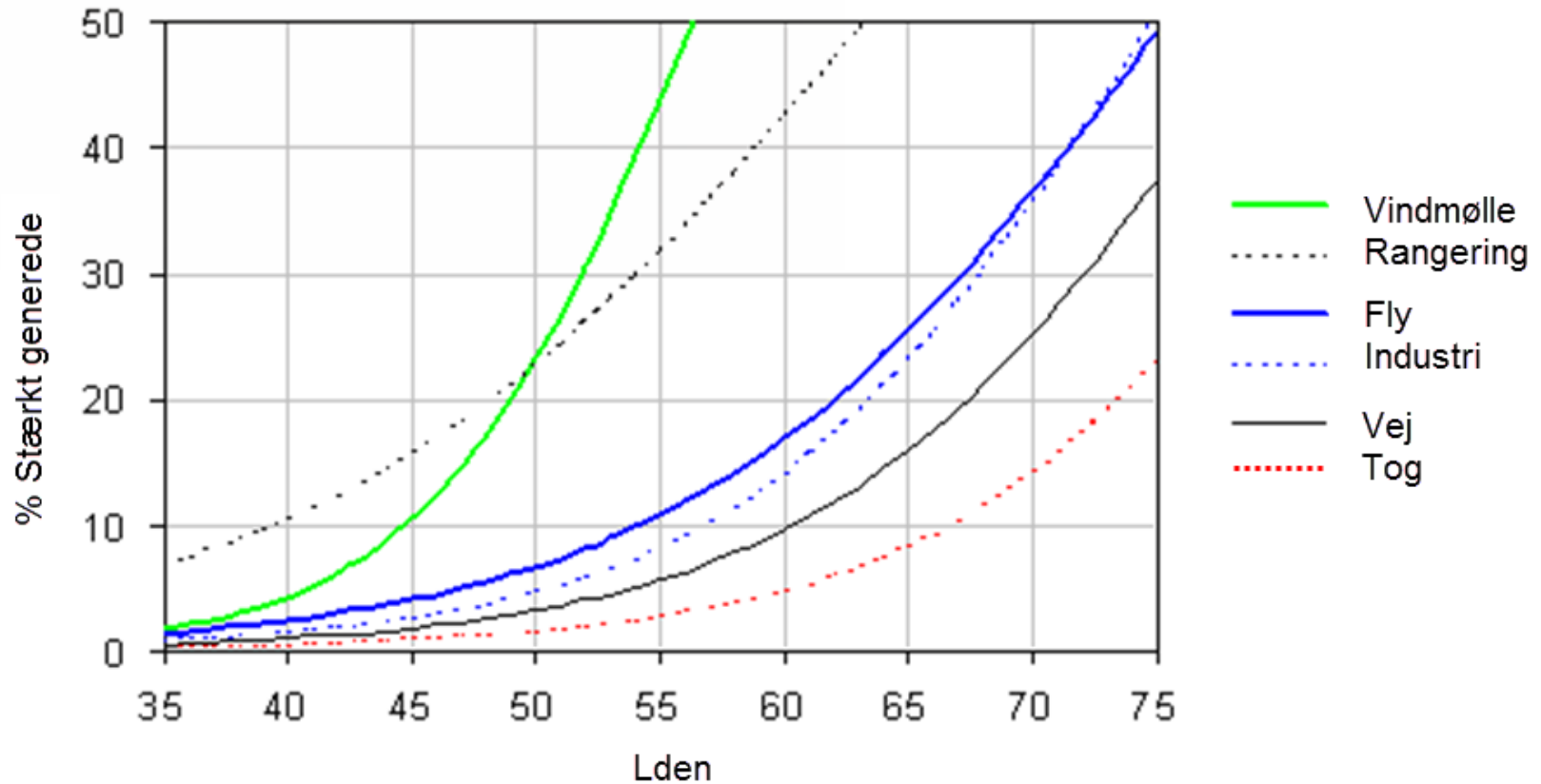
Støjbarometer



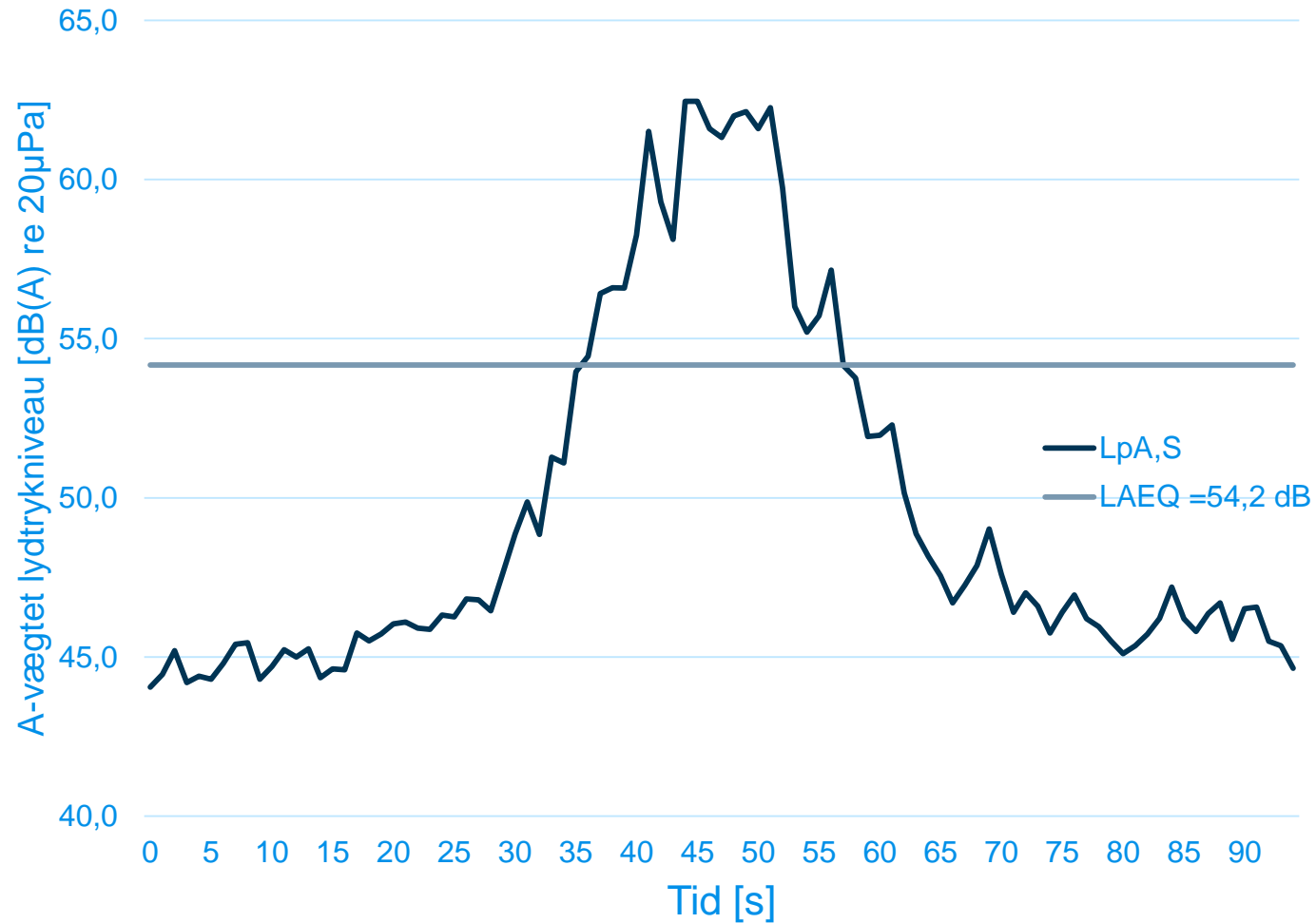
Støj mål

- L_{pA} (lige nu)
- L_{Aeq} (middel)
- $L_{A,max}$ (maksimalt)
- L_{DEN} (døgnvægtet middel)

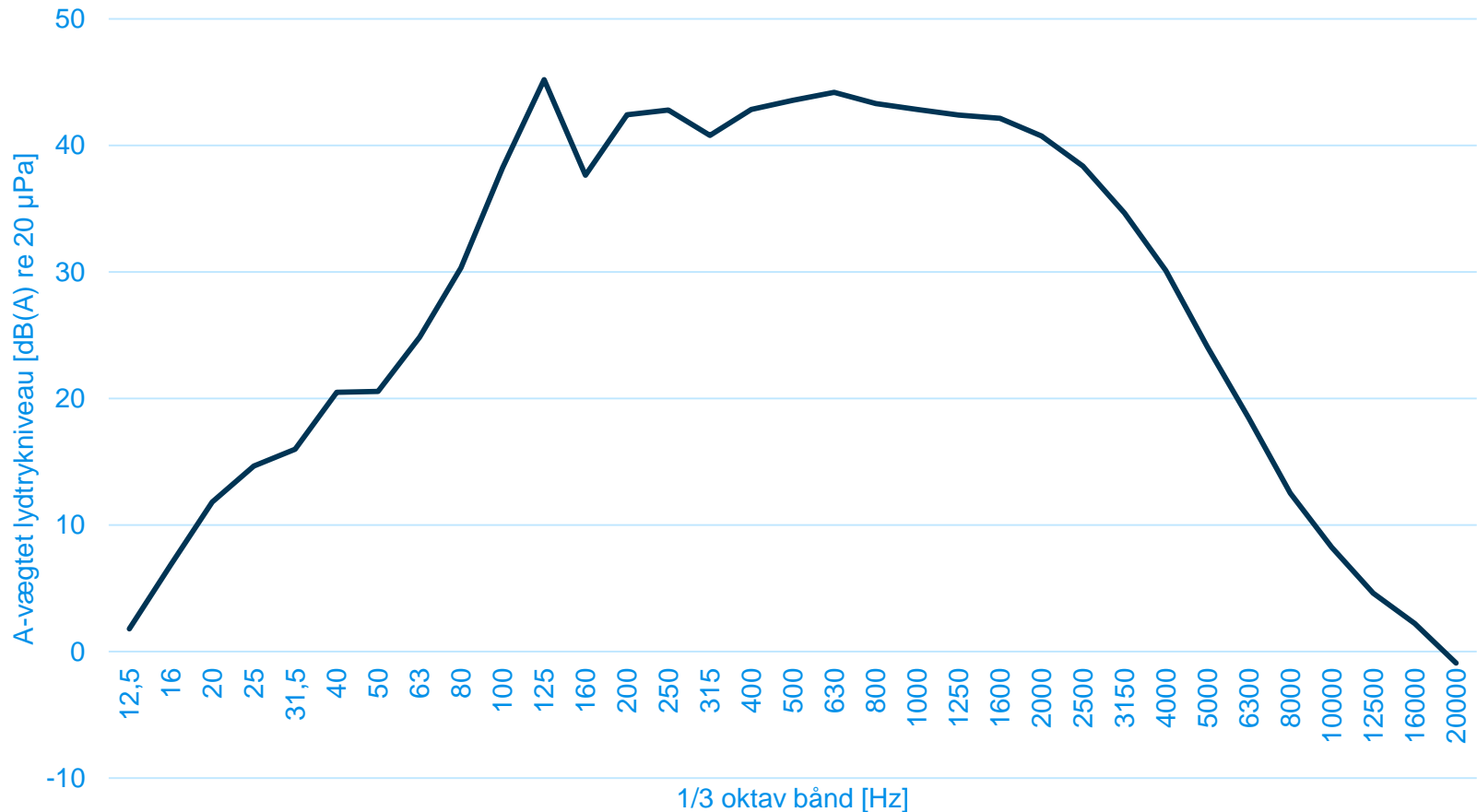
Støjgener



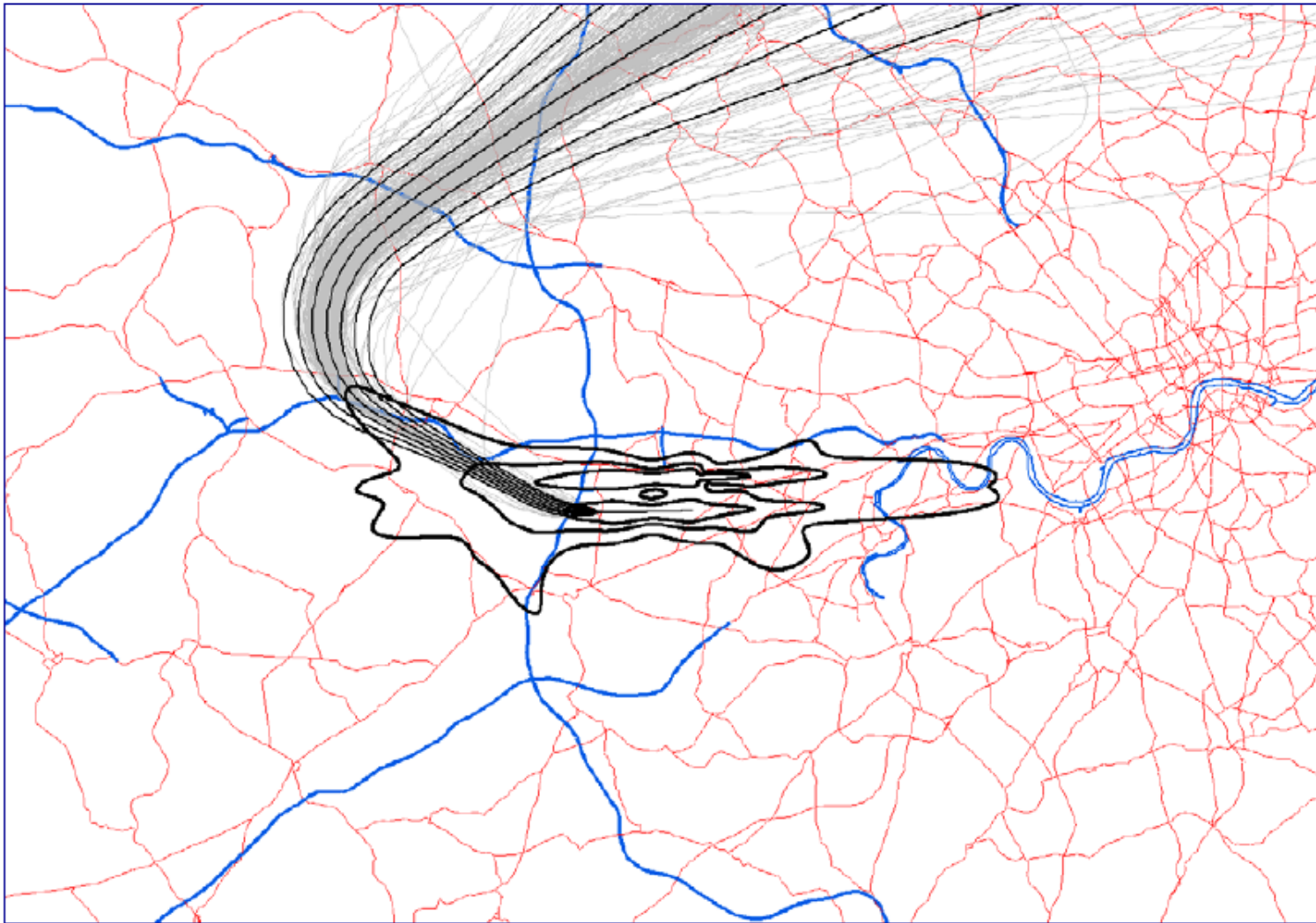
Lydtrykniveau ved overflyvning



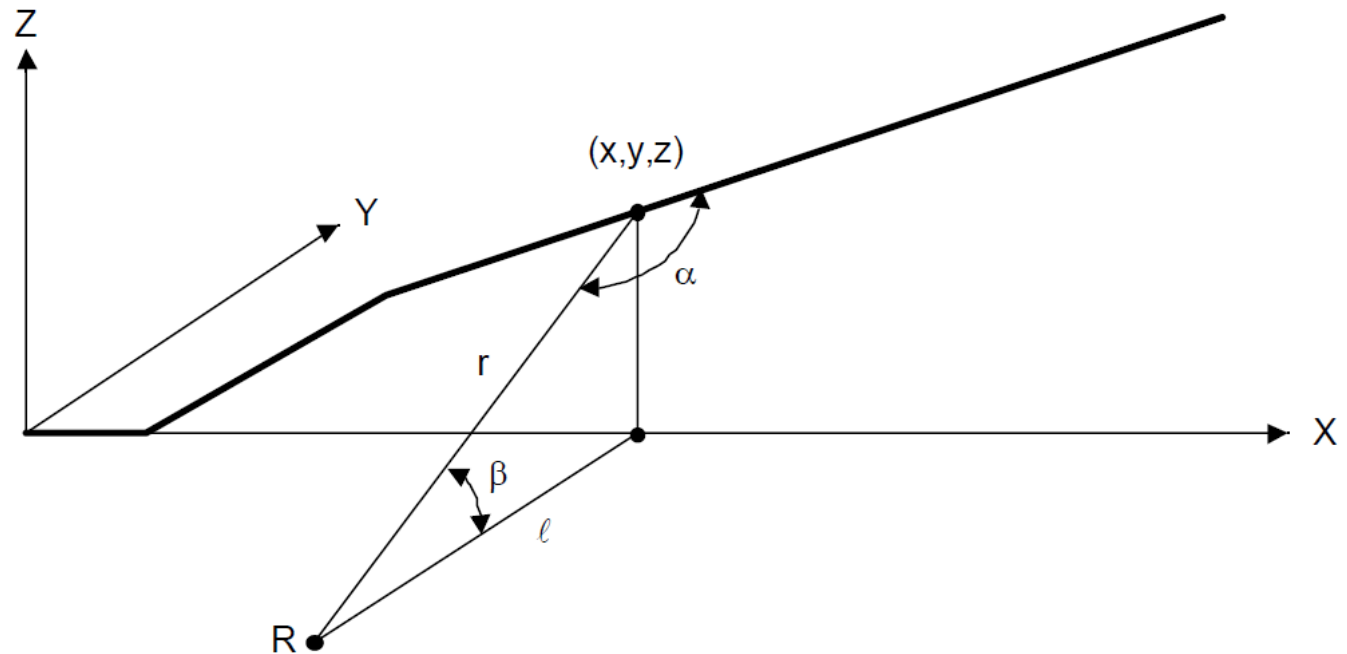
Frekvensspektrum ved passage



Beregning vs Måling



Beregning af flystøj



$$L(\alpha, r, P, l, \beta) = L_r(r, P) + \Delta L(\alpha) - \Delta L_G(l, \beta)$$

$L_r(r, P)$	Støjniveau uden direktivitet og lateral dæmpning
$\Delta L(\alpha)$	Korrektion for direktivitet
$\Delta L_G(l, \beta)$	Korrektion for lateral dæmpning

Further information at forcetechnology.com

