

Projet de grand contournement autoroutier de Toulouse

Les enjeux du bruit

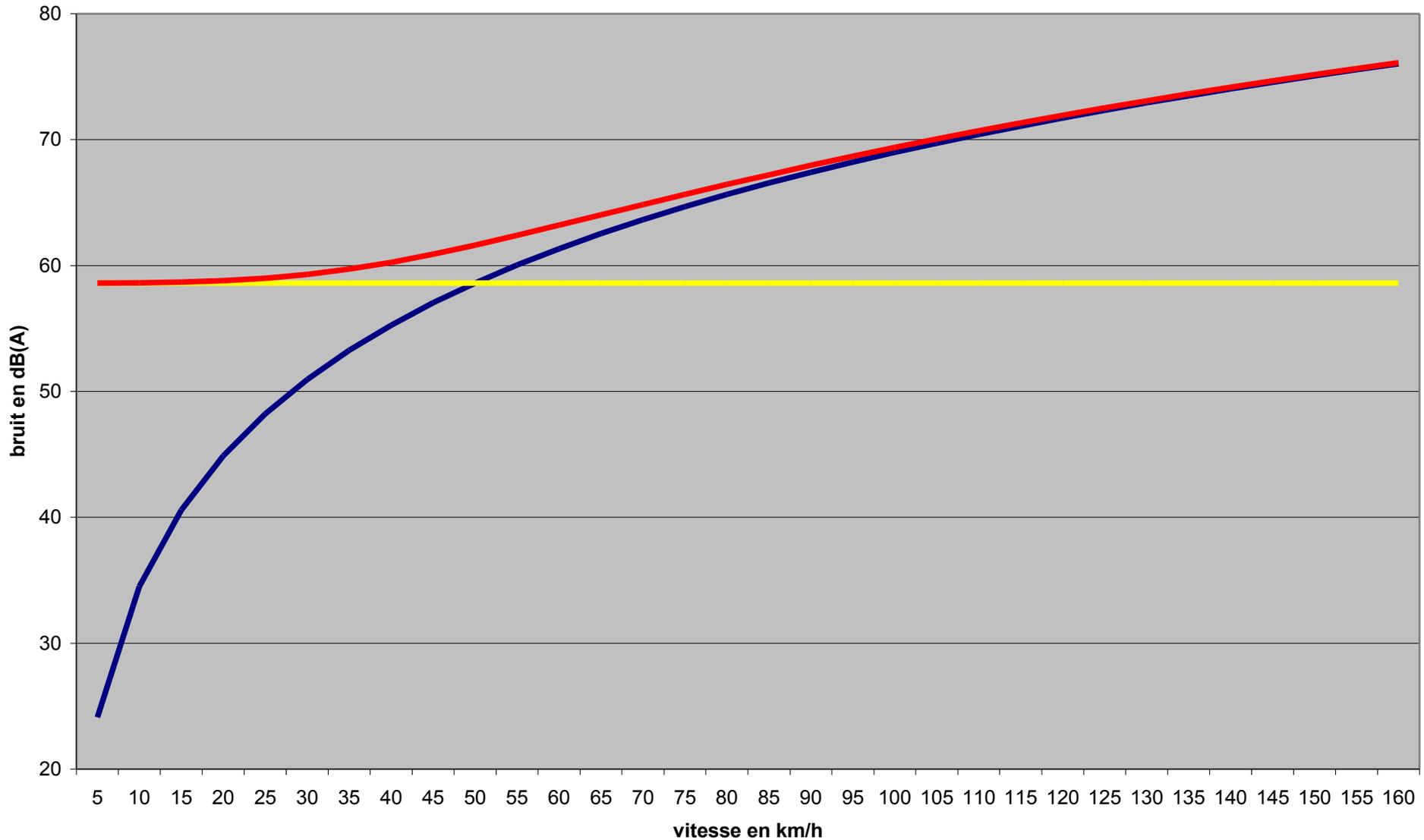
Emmanuel THIBIER - Acousticien - ADEME

Caractéristiques du bruit routier

1. Véhicule unitaire
2. Cas particulier autoroutier

Vitesse / débit / %age poids lourd / Caractéristique de la voie (revêtement, pente)

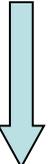
Motorisation / Roulement

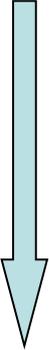


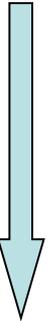
Bruit autoroutier

$$Leq = 20 + 18,5 \cdot \log V + 10 \cdot \log Q - 12 \cdot \log D - 10 \log A$$


V = 100 km/h
37dB(A)

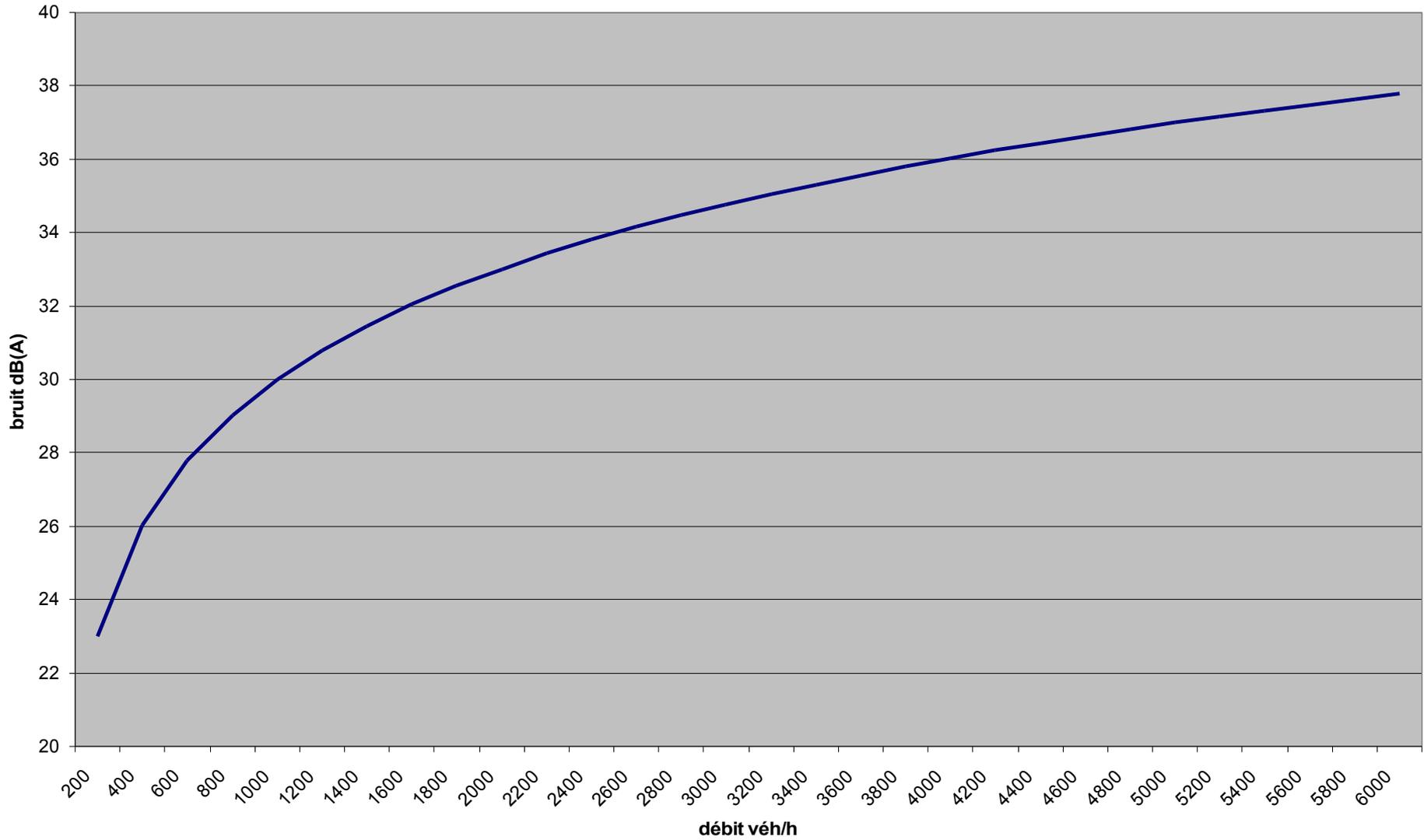

Q = 1000 véh/h
30dB(A)


D = 30m
18 dB(A)


A = 1
0 dB(A)

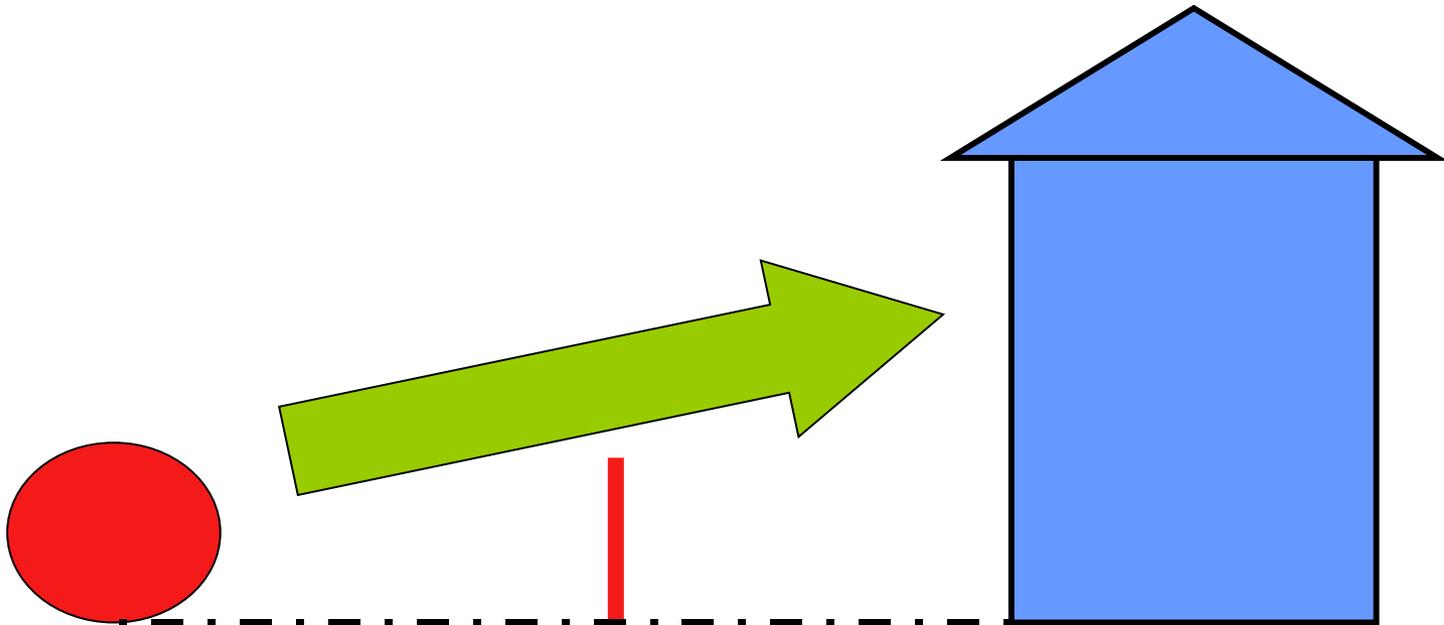
$$Leq = 20 + 37 + 30 - 18 = 69 \text{ dB(A)}$$

débit



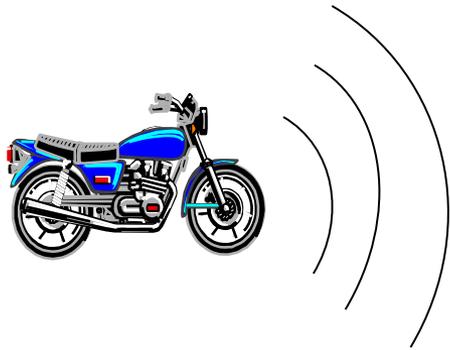
Comment réduire le bruit ?

Emission → propagation → réception

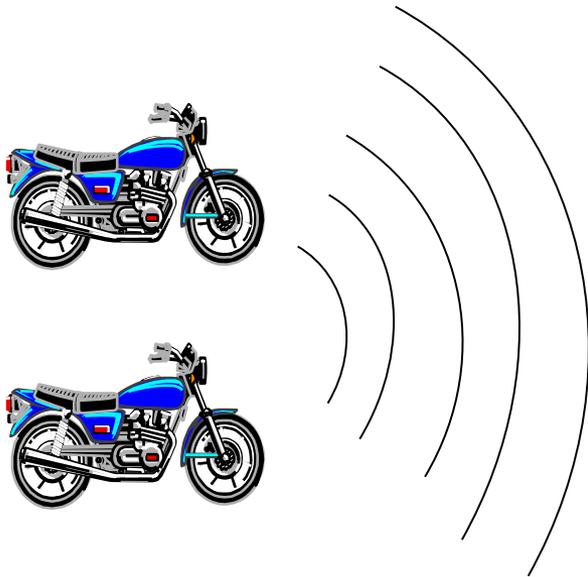


Perception du bruit

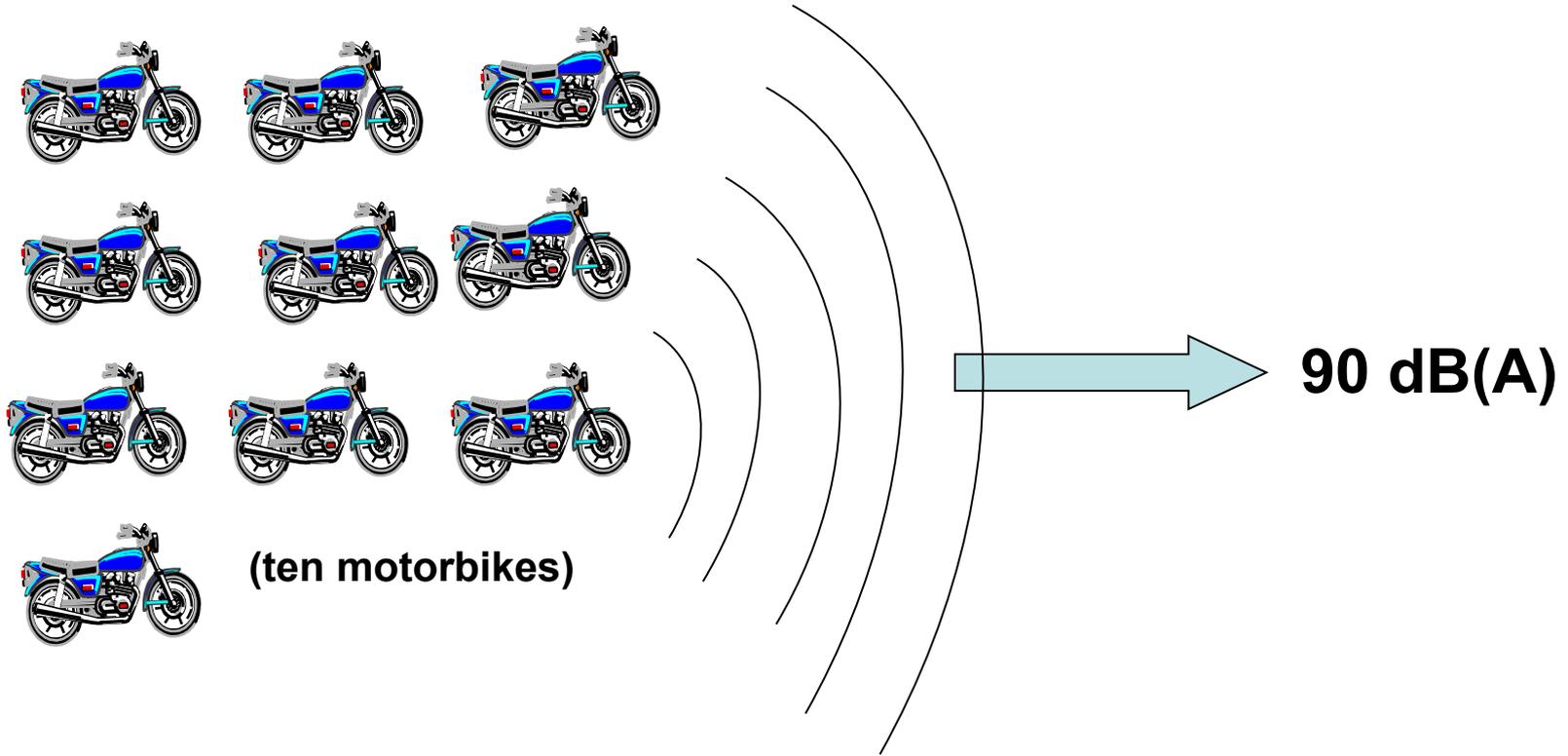
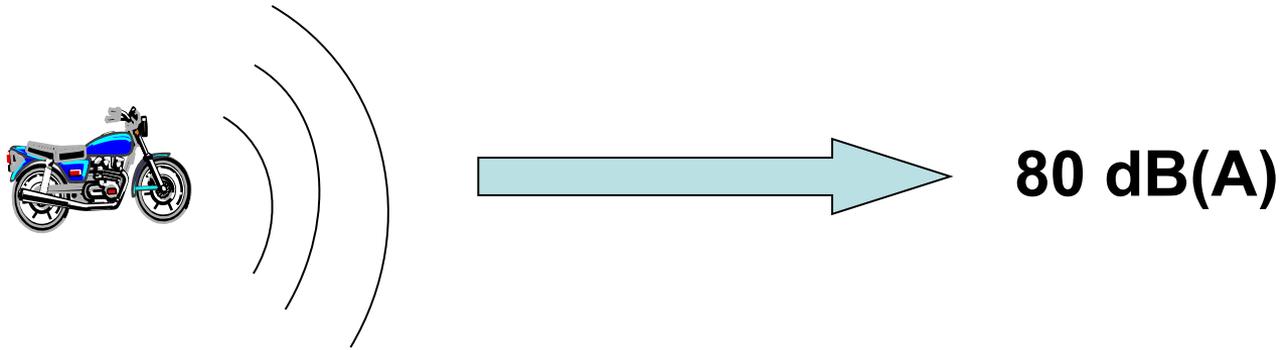
- Niveau sonore mesuré
- Sensation auditive



80 dB(A)



83 dB(A)



Merci de votre attention

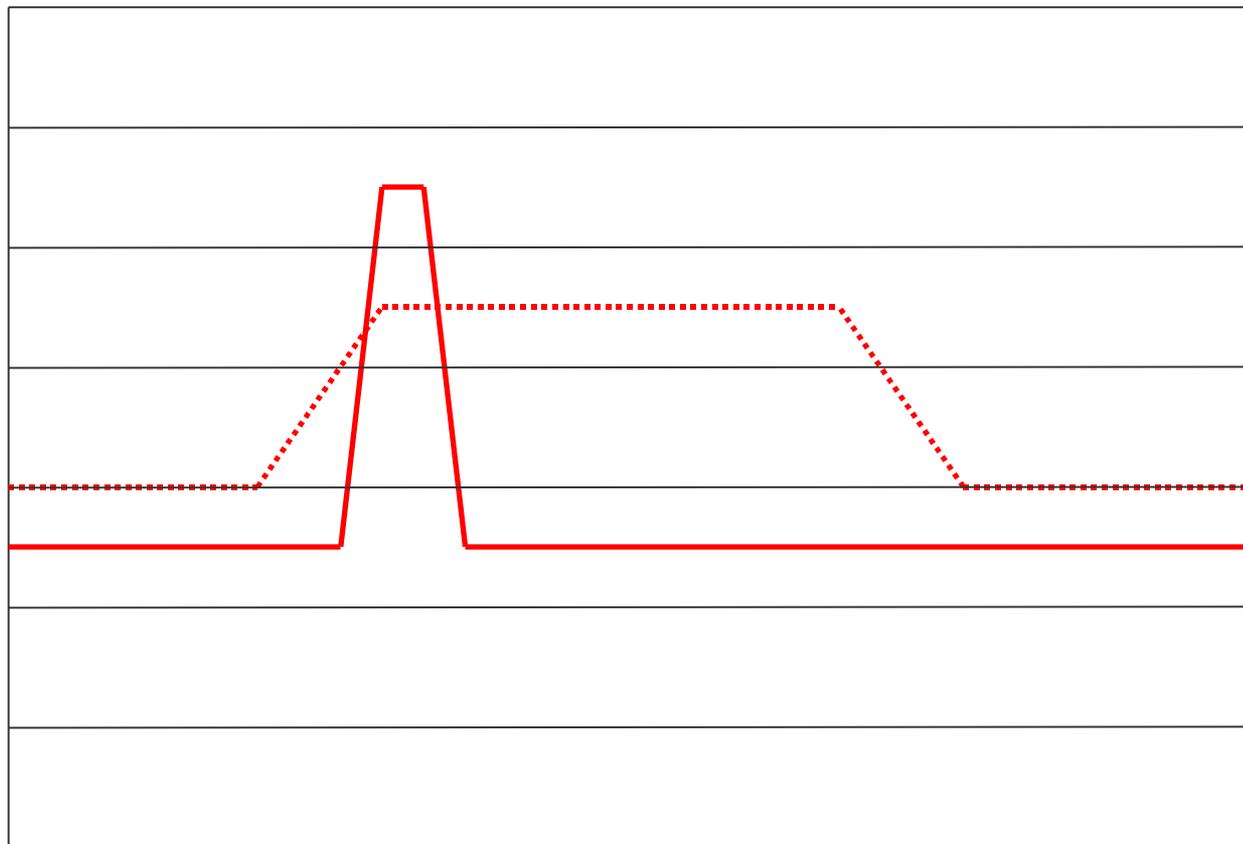
Emmanuel THIBIER

100 dB

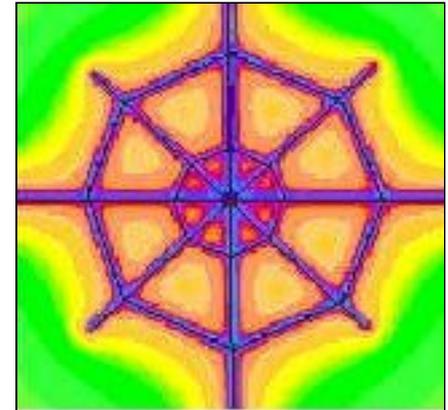
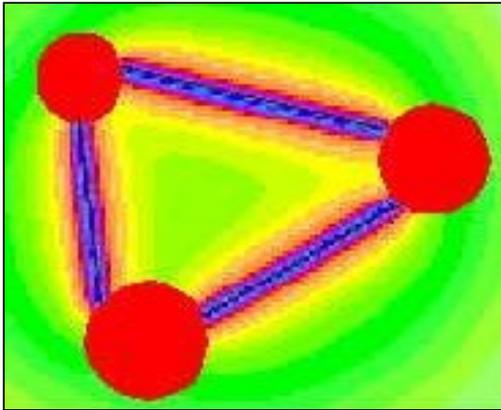
80

60

0 dB

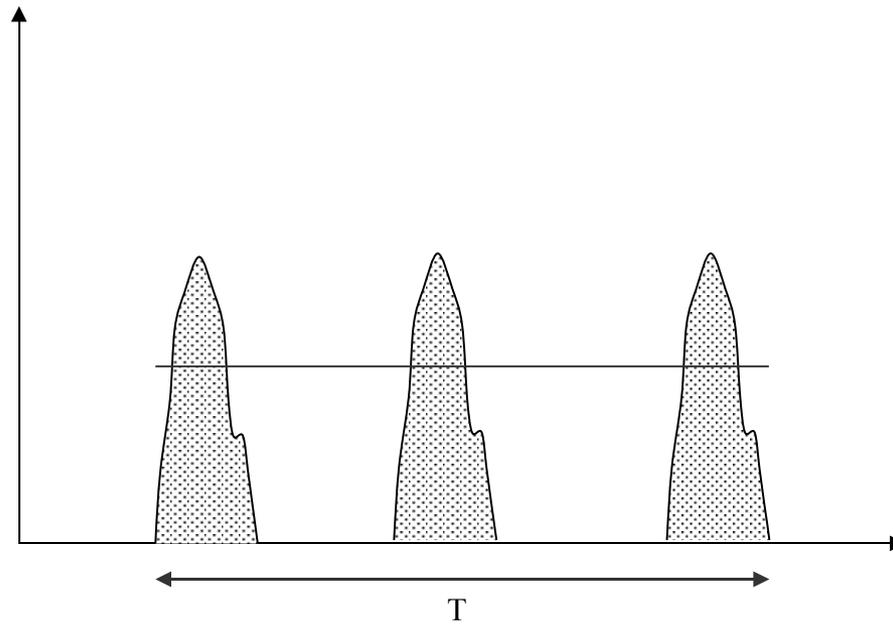


Aménagement du territoire



Concentration ou dilution ???

Niveau équivalent



Bruit de roulement fonction de la vitesse

