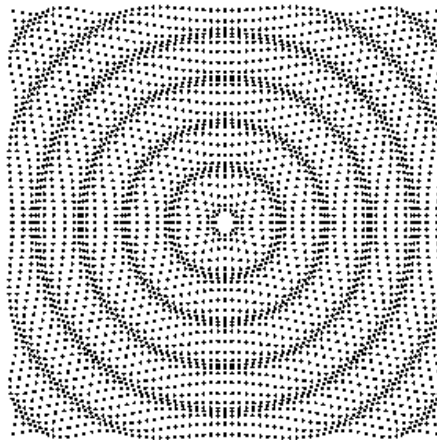




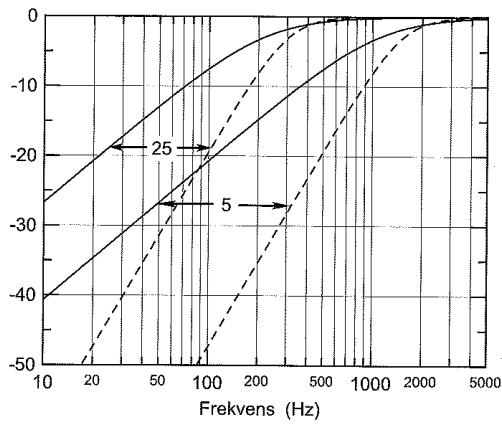
Radiation of sound

(pictures and theory available as handed out section of Vigran)

Monopole

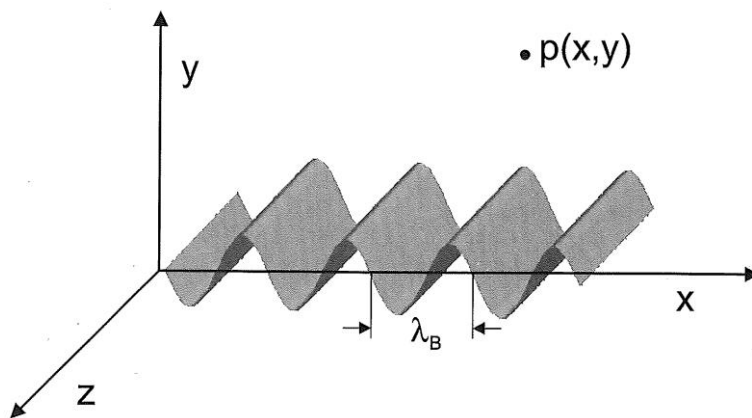


Monopole - dipole

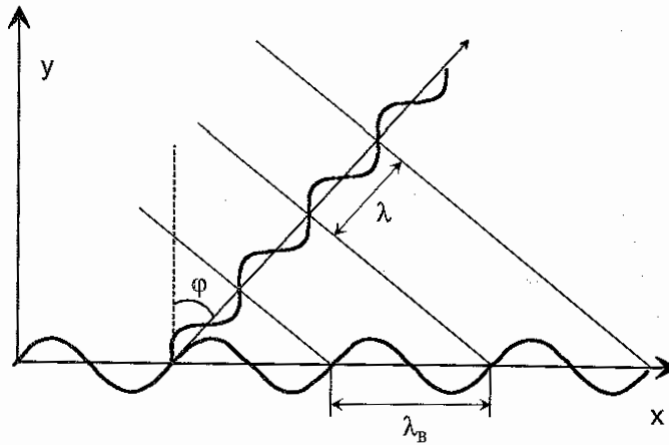


årlingsfaktor for monopol (pulserende kule) og dipol (oscillerende kule) med holdsviss 5 og 25 cm. Heltrukne kurver - monopol. Stiplede kurver - dipol.

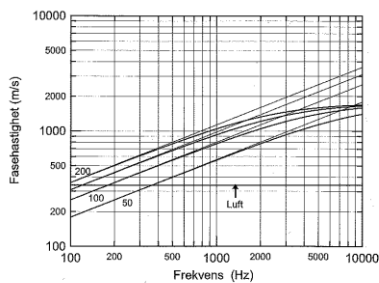
Bending wave propagating in infinite plate



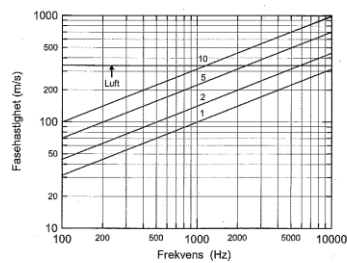
$$k_B < k \text{ or } c_B < c_0$$



Phase velocity as a function of frequency

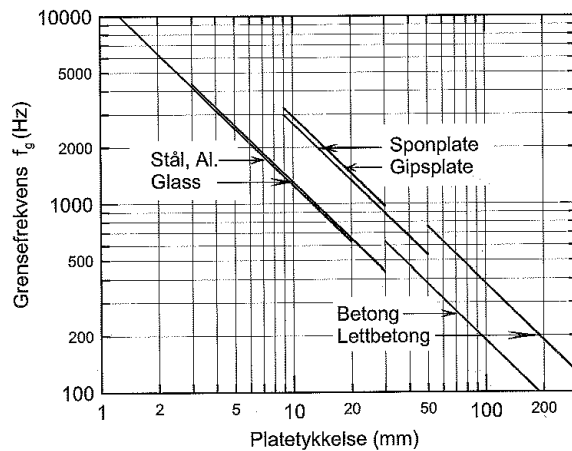


Figur 3-19 Fasehastighet for bøyingsbølger i plater av betong i tykkelse 50, 100, 150 og 200 mm. Tynne linjer er beregnet etter tynnplatemodell, tykke linjer viser korrigerte verdier etter ligning (3-106). Horizontal linje viser tilsvarende lydshastighet i luft.



Figur 3-20 Fasehastighet for bøyingsbølger i plater av stål i tykkelse 1, 2, 5 og 10 mm. Se forøvrig teksten til Figur 3-19.

Critical frequency/coincidence frequency



Figur 6-11 Grensefrekvens for homogene plater i avhengighet av tykkelse

Radiation factor for rectangular plate

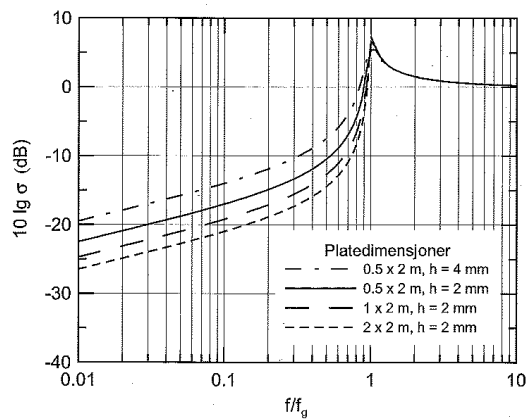
$$\sigma = \frac{Uc_0}{2\pi^2 \sqrt{f \cdot f_g} \cdot S \sqrt{\chi^2 - 1}} \cdot \left[\ln \frac{\chi + 1}{\chi - 1} + \frac{2\chi}{\chi^2 - 1} \right] \quad \text{for } f < f_g,$$

$$\sigma = \sqrt{\frac{2\pi f}{c_0}} \cdot \sqrt{a} \left(0.5 - 0.15 \frac{a}{b} \right) \quad \text{for } f \approx f_g,$$

$$\text{og } \sigma = \frac{1}{\sqrt{1 - \frac{f_g}{f}}} \quad \text{for } f > f_g.$$

$$U = 2(a + b) \quad \chi = \sqrt{\frac{f_g}{f}}$$

Radiation factor for rectangular plate



Figur 6-15 Strålingsfaktor ved resonant stråling fra plater av stål eller aluminium. Beregnet etter Leppington et al. (1982)