

4.6.3 Diskreetti taajuushajotelma

Fourier-sarja on jaksollisen funktion

taajuushajotelma (-spektri),

jossa termin

$$a_n \cos(n\omega t) + b_n \sin(n\omega t) = A_n \sin(n\omega t + \phi_n)$$

jakso on $2\pi / (n\omega)$,

taajuus on $n\omega / (2\pi)$,

ja **(kulma)taajuus** on $n\omega = n\omega_0 = \omega_n$.

(Ks. 4.2.1: "The term **circular frequency** is also used in engineering, and is defined by

$$\text{circular frequency} = 2\pi \times \text{frequency} = 2\pi/T$$

and is measured in radians per second. It is common to drop the term 'circular' and refer to this simply as the frequency when the context is clear.")

(Aikaisemman $\omega = 2\pi/T$ tilalle otetaan vähitellen ω_0 merkitsemään funktion perus(kulma)taajuutta. Ks. 4.6.3 ja 5.2.1: " ω_0 is the fundamental frequency, that is, the frequency of the parent function".)

Entä jaksottoman funktion

taajuushajotelma (-spektri)?