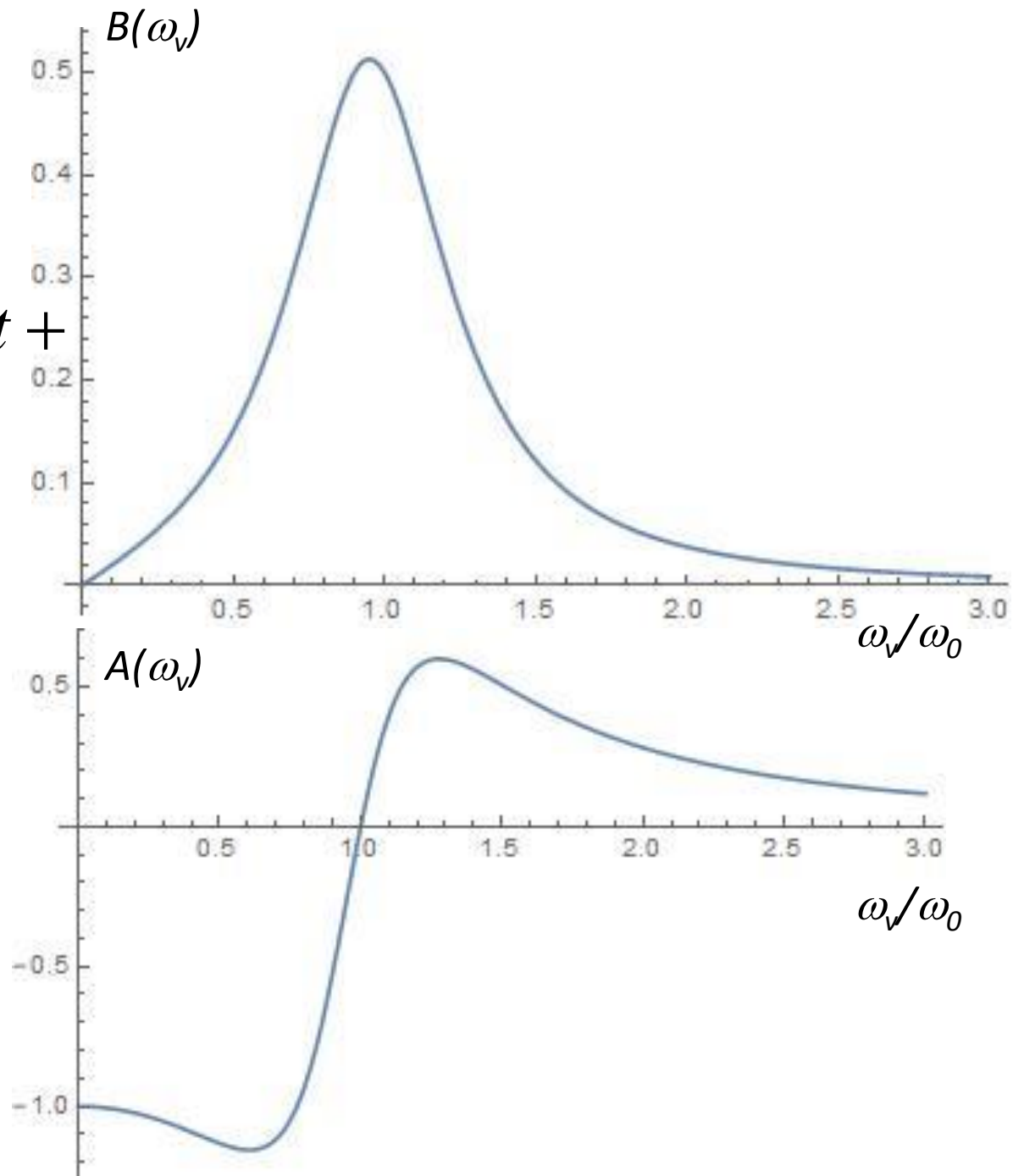


Vsiljeno nihanje

$$x(t) = e^{-\beta t} [C \sin \omega t + D \cos \omega] + A \sin \omega_v t + B \cos \omega_v t$$

$$\omega = \sqrt{\omega_0^2 - \beta^2}$$

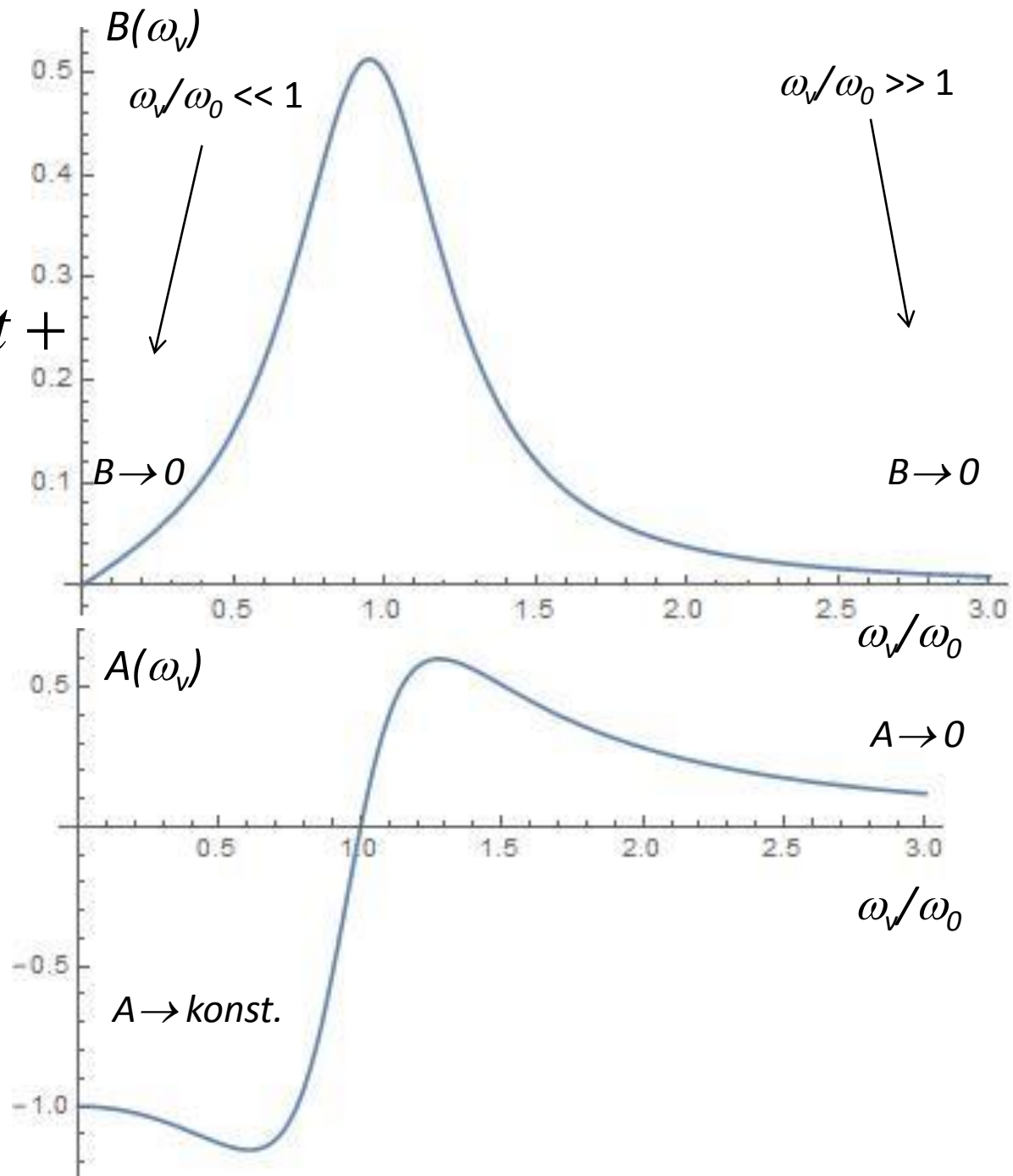


Vsiljeno nihanje

$$x(t) = e^{-\beta t} [C \sin \omega t + D \cos \omega] + A \sin \omega_v t + B \cos \omega_v t$$

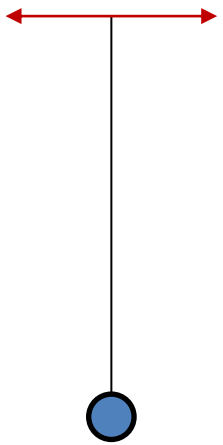
$$\beta t \gg 1$$

$$x(t) \rightarrow A \sin \omega_v t + B \cos \omega_v t$$

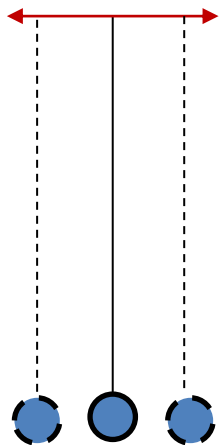


Vsiljeno nihanje

$$x_{0v} \sin(\omega_v t)$$

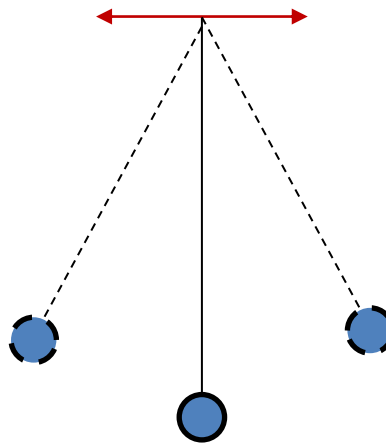


$$\omega_v / \omega_0 \ll 1$$



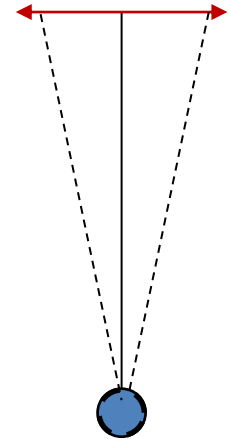
$$B \rightarrow 0$$
$$A \rightarrow x_{v0}$$

$$\omega_v / \omega_0 \ll 1$$



$$B \rightarrow \max$$

$$\omega_v / \omega_0 \ll 1$$



$$B \rightarrow 0$$
$$A \rightarrow 0$$

vsiljeno nihanje: veliko primerov iz vsakdanjega življenja

most ...

nihanja električne napetosti v velikih omrežjih...

okvarjena naprava (ventil termoelektrarne, kontroler vetrne elektrarne, ...)

vkjučena v omrežje vsiljuje nihanje napetosti;

veliko omrežje si lahko predstavljamo kot kompliciran sistem velikega števila nihajnikov

→ veliko ω_0 ;

če $\omega_v \sim \omega_0 \rightarrow$ resonanca \rightarrow lahko pride do razpada omrežja;

primer indijskega omrežja 17.3.2018, 02:43-02:48

meritve napetosti na linijah trolejbusov

■ FARAKKA-VAY ■ FARAKKA-VCY ■ FARAKKA-VBY

