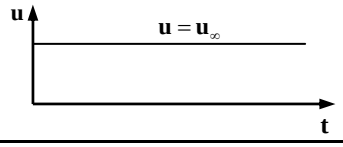
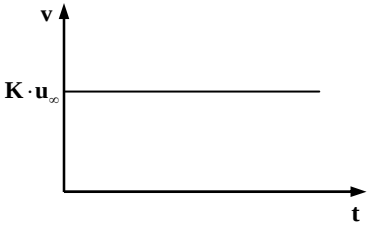
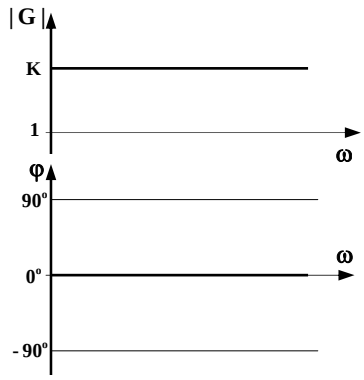
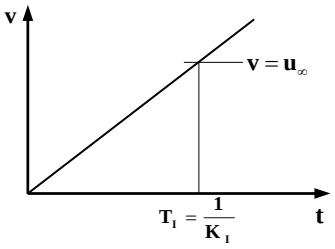
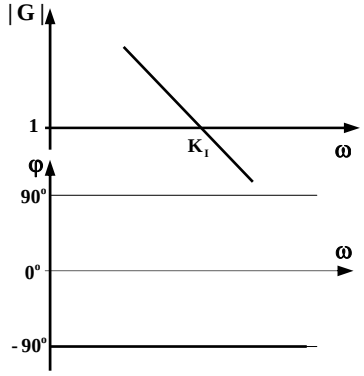
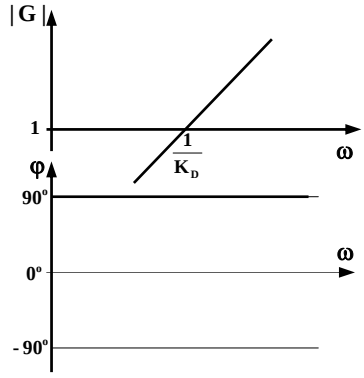
Bez.	Differentialgleichung und Sprungantwort	Frequenzgang	Bode-Diagramm Amplituden- und Phasengang
			
P	$v = K \cdot u$ 	$G = K$	
I	$v = K_I \cdot \int u \cdot dt$ 	$G = \frac{K_I}{j\omega}$	
D	$v = K_D \cdot \dot{u}$ 	$G = K_D j\omega$	

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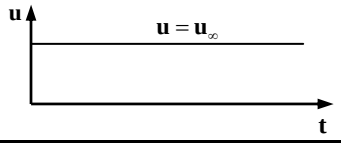
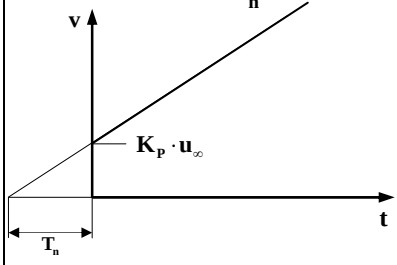
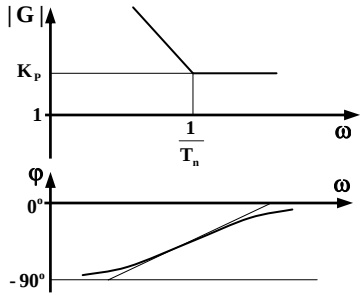
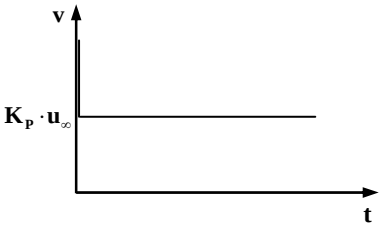
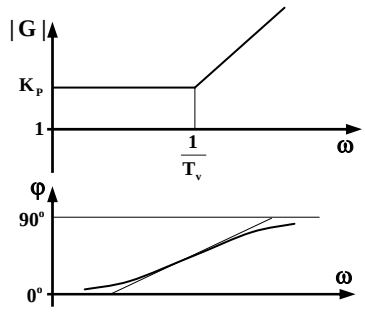
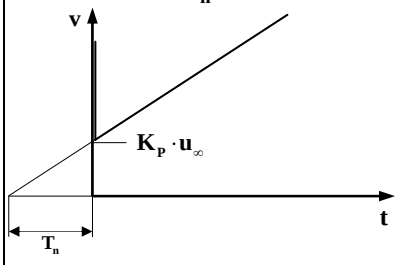
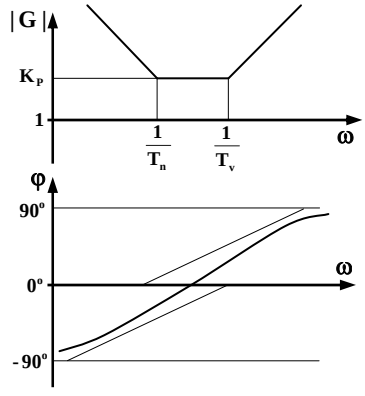
			
PI	$v = K_P(u + \frac{1}{T_n}\int u \cdot dt)$ 	$G = K_P(1 + \frac{1}{T_n j\omega})$	
PD	$v = K_P(u + T_v\dot{u})$ 	$G = K_P(1 + T_v j\omega)$	
PID	$v = K_P(u + \frac{1}{T_n}\int u \cdot dt + T_v\dot{u})$ 	$G = K_P(1 + \frac{1}{T_n j\omega} + T_v j\omega)$ für $T_v << T_n$: $G \approx K_P(1 + \frac{1}{T_n j\omega}) \cdot (1 + T_v j\omega)$	

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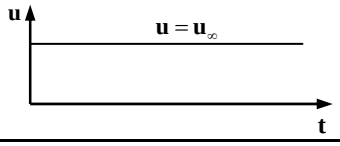
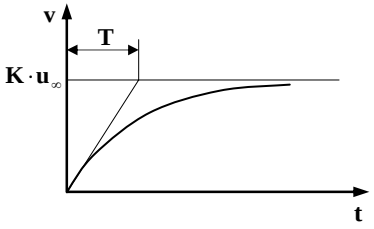
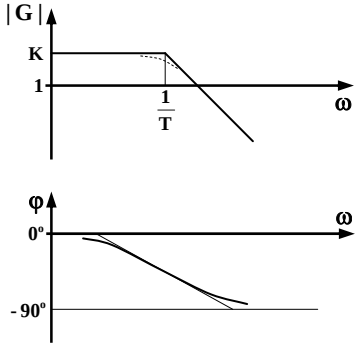
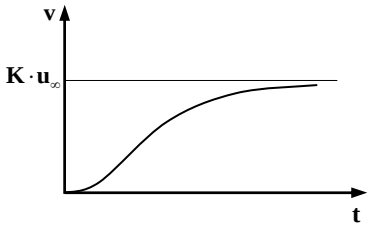
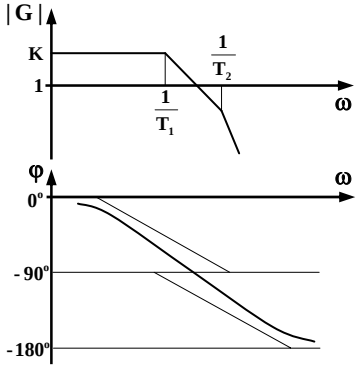
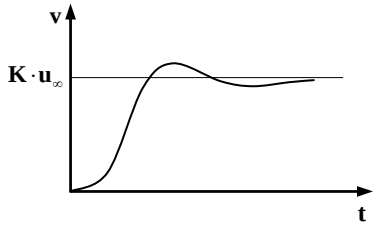
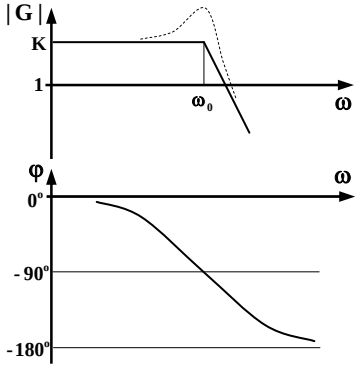
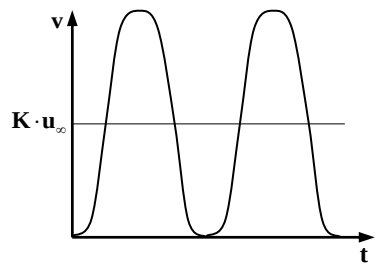
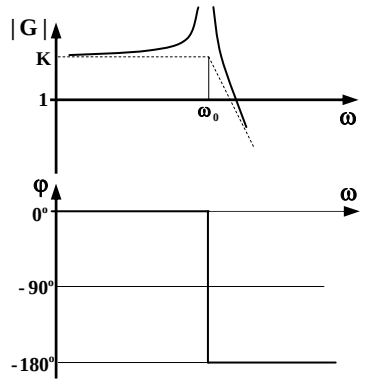
			
PT_1	$T \cdot \dot{v} + v = K \cdot u$ 	$G = \frac{K}{1 + j\omega T}$	
PT_2	$T_1T_2 \cdot \ddot{v} + (T_1 + T_2)\dot{v} + v = K \cdot u$ 	$G = \frac{K}{1 + (T_1 + T_2)j\omega + (T_1T_2)(j\omega)^2}$	
PT_2	$\ddot{v} + 2\delta\dot{v} + \omega_0^2 v = K\omega_0^2 u$ 	$G = \frac{K\omega_0^2}{\omega_0^2 + 2\delta j\omega + (j\omega)^2}$ Dämpfungsgrad: $\frac{\delta}{\omega_0}$	
PT_2	$\ddot{v} + \omega_0^2 v = K\omega_0^2 u$ 	$G = \frac{K\omega_0^2}{\omega_0^2 + (j\omega)^2}$	

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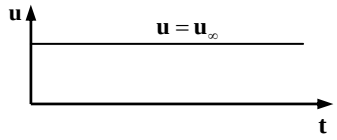
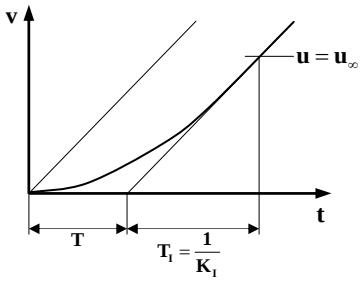
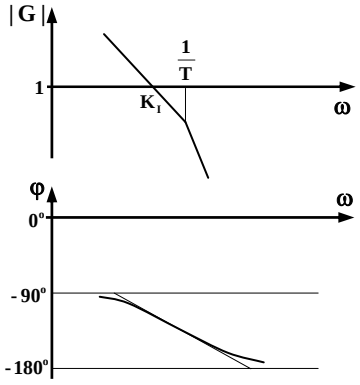
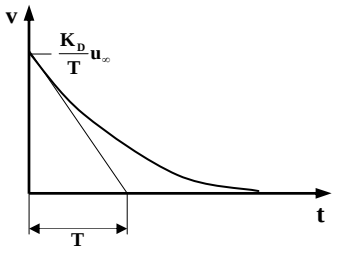
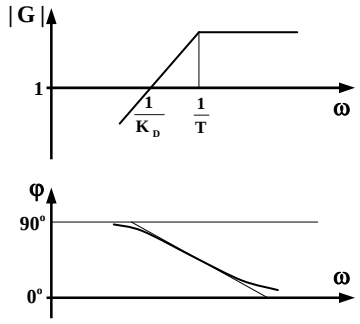
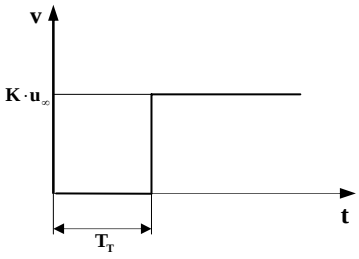
			
IT_1	$T \cdot \dot{v} + v = K_I \int u \cdot dt$ 	$G = \frac{K_I}{j\omega(1 + j\omega T)}$	
DT_1	$T \cdot \dot{v} + v = K_D \dot{u}$ 	$G = \frac{K_D j\omega}{1 + j\omega T}$	
PT_t	$v(t) = K \cdot u(t - T_T)$ 	$G = K \cdot e^{-j\omega T_T}$