

Przepustowości układów impulsowych

Lp	$K(s)$	$K_I^*(e^s, \varepsilon); 0 \leq \varepsilon < \gamma$	$K_{II}^*(e^s, \varepsilon); \gamma \leq \varepsilon < 1$	$K_0^*(e^s, \varepsilon); 0 < \varepsilon < 1$
1	$\frac{1}{ST_1 + 1}$	$k(e^{-\beta(1-\gamma)} - e^{-\beta}) e^{-\beta\varepsilon} \frac{1}{e^s - e^{-\beta}}$ $\beta = \frac{T}{T_1}$	$k(e^{\beta\gamma} - 1) e^{-\beta\varepsilon} \frac{e^s}{e^s - e^{-\beta}}$ $\beta = \frac{T}{T_1}$	$k\beta\gamma e^{-\beta\varepsilon} \frac{e^s}{e^s - e^{-\beta}}$ $\beta = \frac{T}{T_1}$
2	$\frac{S}{ST_1 + 1}$	$k_1 e^{-\beta\varepsilon} \frac{e^s - e^{-\beta(1-\gamma)}}{e^s - e^{-\beta}}$ $k_1 = \frac{k}{T_1}; \beta = \frac{T}{T_1}$	$k_1 e^{-\beta\varepsilon} \frac{1 - e^{\beta\gamma}}{e^s - e^{-\beta}}$ $k_1 = \frac{k}{T_1}; \beta = \frac{T}{T_1}$	$-k_1\beta\gamma e^{-\beta\varepsilon} \frac{1}{e^s - e^{-\beta}}$ $k_1 = \frac{k}{T_1}; \beta = \frac{T}{T_1}$
3	$\frac{1}{(ST_1 + 1)(ST_2 + 1)}$	$k + \frac{k\beta_2}{\beta_1 - \beta_2} \cdot \frac{e^s - e^{-\beta_1(1-\gamma)}}{e^s - e^{-\beta_1}} e^{-\beta_1\varepsilon} + \frac{k\beta_1}{\beta_2 - \beta_1} \cdot \frac{e^s - e^{-\beta_2(1-\gamma)}}{e^s - e^{-\beta_2}} e^{-\beta_2\varepsilon}$ $\beta_1 = \frac{T}{T_1}; \beta_2 = \frac{T}{T_2}$	$k \frac{\beta_2}{\beta_1 - \beta_2} \cdot \frac{1 - e^{\beta_1\gamma}}{e^s - e^{-\beta_1}} e^s e^{-\beta_1\varepsilon} + k \frac{\beta_1}{\beta_1 - \beta_2} \cdot \frac{1 - e^{\beta_2\gamma}}{e^s - e^{-\beta_2}} e^s e^{-\beta_2\varepsilon}$ $\beta_1 = \frac{T}{T_1}; \beta_2 = \frac{T}{T_2}$	$-k \frac{\beta_1\beta_2\gamma}{\beta_1 - \beta_2} \cdot \frac{e^s e^{-\beta_1\varepsilon}}{e^s - e^{-\beta_1}} - k \frac{\beta_1\beta_2\gamma}{\beta_2 - \beta_1} \cdot \frac{e^s e^{-\beta_2\varepsilon}}{e^s - e^{-\beta_2}}$ $\beta_1 = \frac{T}{T_1}; \beta_2 = \frac{T}{T_2}$
4	$\frac{1}{ST_s(ST_1 + 1)(ST_2 + 1)}$	$-k\beta_s \left(\frac{1}{\beta_1} + \frac{1}{\beta_2} \right) + k\beta_s \left(\varepsilon + \frac{\gamma}{e^s - 1} \right) + k \frac{\beta_2\beta_s}{\beta_1(\beta_2 - \beta_1)} \cdot \frac{1 - e^{-\beta_1(1-\gamma)}}{e^s - e^{-\beta_1}} e^{-\beta_1\varepsilon} +$ $+ k \frac{\beta_1\beta_s}{\beta_2(\beta_1 - \beta_2)} \cdot \frac{1 - e^{-\beta_2(1-\gamma)}}{e^s - e^{-\beta_2}} e^{-\beta_2\varepsilon};$ $\beta_1 = \frac{T}{T_1}; \beta_2 = \frac{T}{T_2}; \beta_s = \frac{T}{T_s}$	$k\beta_s \frac{\gamma e^s}{e^s - 1} + k \frac{\beta_2\beta_s}{\beta_1(\beta_2 - \beta_1)} \cdot \frac{(1 - e^{\beta_1})^\gamma e^s}{e^s - e^{-\beta_1}} e^{-\beta_1\varepsilon} +$ $+ k \frac{\beta_1\beta_s}{\beta_2(\beta_1 - \beta_2)} \cdot \frac{(1 - e^{\beta_2})^\gamma e^s}{e^s - e^{-\beta_2}} e^{-\beta_2\varepsilon};$ $\beta_1 = \frac{T}{T_1}; \beta_2 = \frac{T}{T_2}; \beta_s = \frac{T}{T_s}$	$k\beta_s \frac{\gamma e^s}{e^s - 1} - k\gamma \frac{s}{\beta_2 - \beta_1} \cdot \frac{e^s}{e^s - e^{-\beta_1}} e^{-\beta_1\varepsilon} +$ $- k\gamma \frac{\beta_1\beta_s}{\beta_1 - \beta_2} \cdot \frac{e^s}{e^s - e^{-\beta_2}} e^{-\beta_2\varepsilon};$ $\beta_1 = \frac{T}{T_1}; \beta_2 = \frac{T}{T_2}; \beta_s = \frac{T}{T_s}$
5	$\frac{k_1}{ST_s(ST_1 + 1)}$	$-k_0 \frac{\beta_s}{\beta} + k_0 \frac{\beta_s}{\beta} e^{-\beta\varepsilon} \frac{e^s - e^{-\beta(1-\gamma)}}{e^s - e^{-\beta}} + k_0\beta_s \left(\varepsilon + \frac{\gamma}{e^s - 1} \right);$ $k_0 = k k_1; \beta = \frac{T}{T_1}; \beta_s = \frac{T}{T_s}$	$k_0\beta_s \frac{\gamma e^s}{e^s - 1} - k_0 \frac{\beta_s}{\beta} (e^{\beta\gamma} - 1) e^{-\beta\varepsilon} \frac{e^s}{e^s - e^{-\beta}}$ $k_0 = k k_1; \beta = \frac{T}{T_1}; \beta_s = \frac{T}{T_s}$	$k_0\beta_s \frac{\gamma e^s}{e^s - 1} - k_0\beta_s\gamma e^{-\beta\varepsilon} \frac{e^s}{e^s - e^{-\beta}}$ $k_0 = k k_1; \beta = \frac{T}{T_1}; \beta_s = \frac{T}{T_s}$