

TRANSFORMATY LAPLACE'A

$f(t)$	$F(s)$
$\delta(t)$	1
$1(t)$	$\frac{1}{s}$
$\frac{t^{n-1}}{(n-1)!}$	$\frac{1}{s^n}$
$\frac{1}{\tau} \exp\left(-\frac{t}{\tau}\right)$	$\frac{1}{\tau s + 1}$
$\sin(\omega t)$	$\frac{\omega}{s^2 + \omega^2}$
$\cos(\omega t)$	$\frac{s}{s^2 + \omega^2}$
$1 - \exp\left(-\frac{t}{\tau}\right)$	$\frac{1}{s(\tau s + 1)}$
$\frac{1}{\tau^n (n-1)!} t^{n-1} \exp\left(-\frac{t}{\tau}\right)$	$\frac{1}{(\tau s + 1)^n}$
$1 - \exp\left(-\frac{t}{\tau}\right) \left[1 + \frac{t}{\tau} + \dots + \frac{1}{(n-1)!} \left(\frac{t}{\tau}\right)^{n-1} \right]$	$\frac{1}{s(\tau s + 1)^n}$
$\frac{1}{\tau_1 - \tau_2} \left[\exp\left(-\frac{t}{\tau_1}\right) - \exp\left(-\frac{t}{\tau_2}\right) \right]$	$\frac{1}{(\tau_1 s + 1)(\tau_2 s + 1)}$
$1 - \frac{1}{\tau_1 - \tau_2} \left[\tau_1 \exp\left(-\frac{t}{\tau_1}\right) - \tau_2 \exp\left(-\frac{t}{\tau_2}\right) \right]$	$\frac{1}{s(\tau_1 s + 1)(\tau_2 s + 1)}$
$\frac{1}{\tau \sqrt{1-\xi^2}} \exp\left(-\xi \frac{t}{\tau}\right) \sin\left(\sqrt{1-\xi^2} \frac{t}{\tau}\right)$	$\frac{1}{\tau^2 s^2 + 2\tau\xi s + 1} \quad \text{dla } \xi < 1$
$1 - \frac{1}{\sqrt{1-\xi^2}} \exp\left(-\xi \frac{t}{\tau}\right) \sin\left(\sqrt{1-\xi^2} \frac{t}{\tau} + \varphi\right)$ $\varphi = \arctg\left(\frac{\sqrt{1-\xi^2}}{\xi}\right)$	$\frac{1}{s(\tau^2 s^2 + 2\tau\xi s + 1)} \quad \text{dla } \xi < 1$