

Formulaire pour le traitement du signal

Formulaire

Relations trigonométriques

$$\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B \quad (1)$$

$$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B \quad (2)$$

$$\cos A \cos B = \frac{1}{2}(\cos(A - B) + \cos(A + B)) \quad (3)$$

$$\sin A \cos B = \frac{1}{2}(\sin(A - B) + \sin(A + B)) \quad (4)$$

$$\sin A \sin B = \frac{1}{2}(\cos(A - B) - \cos(A + B)) \quad (5)$$

Transformées de FOURIER

$$\text{rect}\left(\frac{t}{T}\right) \quad T \text{sinc}(fT) \quad (6)$$

$$\text{sinc}(2Wt) \quad \frac{1}{2W} \text{rect}\left(\frac{f}{2W}\right) \quad (7)$$

$$e^{-at}u(t), \quad a > 0 \quad \frac{1}{a + 2\pi j f} \quad (8)$$

$$e^{-a|t|}, \quad a > 0 \quad \frac{2a}{a^2 + (2\pi f)^2} \quad (9)$$

$$e^{-\pi t^2} \quad e^{-\pi f^2} \quad (10)$$

$$\delta(t) \quad 1 \quad (11)$$

$$1 \quad \delta(f) \quad (12)$$

$$\delta(t - t_0) \quad e^{-2\pi j f t_0} \quad (13)$$

$$e^{2\pi j f_c t} \quad \delta(f - f_c) \quad (14)$$

$$\cos(2\pi f_c t) \quad \frac{1}{2}[\delta(f - f_c) + \delta(f + f_c)] \quad (15)$$

$$\sin(2\pi f_c t) \quad \frac{1}{2j}[\delta(f - f_c) - \delta(f + f_c)] \quad (16)$$

$$\text{sgn}(t) \quad \frac{1}{\pi j f} \quad (17)$$

$$\frac{1}{\pi t} - j \operatorname{sgn}(f) \quad (18)$$

$$u(t) = \frac{1}{2} \delta(f) + \frac{1}{2\pi j f} \quad (19)$$

$$\sum_{k=-\infty}^{+\infty} \delta(t - iT_0) = \frac{1}{T_0} \sum_{n=-\infty}^{+\infty} \delta\left(f - \frac{n}{T_0}\right) \quad (20)$$