C.04 Laplace transforms

The definition of the one-side Laplace and inverse Laplace transforms follow.

Definition C.1: Laplace transforms (one-sided)

Laplace transform $\mathcal{L}$:

$$\mathcal{L}(y(t)) = Y(s) = \int_0^\infty y(t)e^{-st}dt. \quad (1)$$

Inverse Laplace transform $\mathcal{L}^{-1}$:

$$\mathcal{L}^{-1}(Y(s)) = y(t) = \frac{1}{2\pi j}\int_{\sigma-j\infty}^{\sigma+j\infty} Y(s)e^{st}ds. \quad (2)$$

See Table lap.1 for a list of properties and common transforms.

Complex analysis