

FORMULA 3.354.4

$$\int_0^{\infty} \frac{x e^{-\mu x} dx}{\beta^2 - x^2} = \frac{1}{2} [e^{-\beta\mu} \text{Ei}(\beta\mu) + e^{\beta\mu} \text{Ei}(-\beta\mu)] \quad |\arg(\pm\beta)| < \pi, \text{Re } \mu > 0$$

For $\beta > 0$ one should replace $\text{Ei}(\beta\mu)$ in this formula with $\bar{\text{Ei}}(\beta\mu)$