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Analytical Approximation

Bessel Function of Imaginary Argument: To better than .00005 over (0, ∞),

\[ e^{-xI_0(x)} = \sqrt{\frac{1 + .302x + .234x^2 + .114x^3}{1 + 2.2979x + 2.3871x^2 + 1.2032x^3 + .7183x^4}} \]

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Analytical Approximation

Bessel Function of Imaginary Argument: To better than .0001 over (0,2),

\[ e^{-xI_0(x)} = \frac{1 + .1693x + .0846x^2}{1 + 1.1665x + .5247x^2} \]

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Analytical Approximation

Bessel Function of Imaginary Argument: To better than .000,009 over (0, 1),

\[ e^{-x_0}(x) \approx \frac{1 + .0302x + .0889x^2}{1 + 1.0299x + .3728x^2} \]

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Analytical Approximation

Bessel Function of Imaginary Argument: To better than .0007 over $(0,4)$,

$$e^{-xI_0(x)} = \frac{1 + .4537x + .0955x^2}{1 + 1.4387x + .8855x^2}$$

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Analytical Approximation

Bessel Function of Imaginary Argument: To better than .0003 over (0,4),

\[ e^{-xI_1(x)} = \frac{.4935x + .0268x^2}{1 + .9667x + .5373x^2} \]

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