

Error bounds for approximations of the integral transforms in the complex domain

(Talk)

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Error estimates of the approximations in complex domain for several integral transforms (Laplace transform, Mellin transform, Laplace-Carson transform) are given for functions f which vanish beyond a finite domain and whose derivative belongs to L_p spaces. New inequalities concerning these integral transforms of f , integral mean of f , exponential mean and logarithmic mean of the endpoints of the domain of f are presented and used to obtain associated numerical rules and error bounds of their remainders.

MSC2010: 26D10, 30E10, 44A10.

Keywords: Laplace transform, Mellin transform, Laplace-Carson transform, quadrature formula.

Section: 8.Real and complex analysis.