

1086-32-2266

Kevin Renna* (kevin.renna@umontana.edu). *Using asymptotics to obtain sharp size estimates for a class of exponential integrals.*

Many problems in pure and applied mathematics involve the analysis of functions defined by integrals (e.g. Fourier and Laplace transforms). Of course, these technically-complicated integrals often resist or defy closed-form evaluation. Thus, we seek approximation techniques that give both size estimates and information about the error; this is the content of asymptotics. In this talk, we discuss basic asymptotics techniques and how they can be applied to a certain class of exponential integrals arising naturally in the study of several complex variables. (Received September 25, 2012)