

962-45-1056

Ram P Kanwal* (kanwal@math.psu.edu). *Applications of Generalized Functions in the Theory of Singular Integral Equations.*

This lecture focuses on the interplay between generalized functions and singular integral equations. Unlike the regular integral equations no general theory is available for singular integral equations. By introducing the generalized functions we provide a common thread in the theory of the singular integral equations. The singular integral equations we consider are the Abel, Cauchy, Earleman, logarithmic and Wiener-Hopf. We demonstrate our methods with the help of very simple examples. (Received October 02, 2000)