Transmission, Reflection, and Heat equation with heterogeneous media

Shih-Hsien Yu
Academia Sinica, Taiwan

In this talk we will review a notion "Laplace wave train" to develop the Green's functions for evolutionary partial differential equations with boundaries or with variable coefficients in BV-function functional space. With the Laplace wave train, the Green's function can be expressed as a series of wave trains over a sample path space with measure given by the history of scattering. In particular, it is used to solve the heat equation on a heterogeneous media in 3-D.