

Integral Transform Techniques for Green's Function

This book describes mathematical techniques for integral transforms in a detailed but concise manner. The techniques are subsequently applied to the standard partial differential equations, such as the Laplace equation, the wave equation and elasticity equations. Green's functions for beams, plates and acoustic media are also shown, along with their mathematical derivations. The Cagniard-de Hoop method for double inversion is described in detail and 2D and 3D elastodynamic problems are treated in full.

This new edition explains in detail how to introduce the branch cut for the multi-valued square root function. Further, an exact closed form Green's function for torsional waves is presented, as well as an application technique of the complex integral, which includes the square root function and an application technique of the complex integral.

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