Abstracts

Simulated image method for Green's function of multilayer media

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The Green's function in spectral domain can be accurately approximated by a short series of exponential functions which represent images in the spatial domain. Like most inverse problems, this set of images is nonunique. The nonuniqueness shows up in the complex image method as unsteadiness of the image locations and amplitudes over frequency. The nonuniqueness also points to the possibility of perfect steadiness by fixing the images at real, instead of complex, locations. These images are named simulated images. The fixed image locations lead to fast and convenient computations such that can be used for wide-band applications such as digital circuits.

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