Abstracts

Green's Function for Layered Lossy Media with Special Application to Microstrip Antennas

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Suitable Green's dyadics for the fields generated by a surface current density in a plane parallel to the interface of a layered isotropic structure are determined. Special care is taken to ensure that the Green's function can still be calculated in the source region by circumventing the numerical problems by analytical procedures. As it is our purpose to use the obtained Green's function in order to calculate the power deposition from a microstrip antenna inside a layered biological tissue, the media involved can be highly lossy. An analytical method is developed to avoid numerical problems arising from the exponential decay of the fields due to these losses.

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