Abstracts

Signal Restoration After Transmission through a Nonuniform LCRG Line

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In the present paper, signal restoration after transmission through a nonuniform LCRG line is treated by means of a compact Green function approach. These Green functions are characteristic of the nonuniform line and independent of the incident signal. The compact Green functions map the signal which is received after transmission through a nonuniform LCRG line to split components of the voltage at an arbitrary point on the nonuniform line. Partial differential equations for the compact Green functions are derived together with initial, boundary and jump conditions. A convolution integral with the compact Green function as the kernel is used to restore the original signal. Numerical results for the compact Green functions and for the restored signal are presented. It is noted that for transmission lines with considerable losses, good restoration can be obtained instantaneously by means of a simple RC circuit.

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