Abstracts

Combining neural networks and IIR filters for circuit microwave design and optimization in the time domain

A. Gati, M.F. Wong, A. Ibazizen, V. Fouad Hanna and G. Alquie. "Combining neural networks and IIR filters for circuit microwave design and optimization in the time domain." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1927-1930 vol.4.

A method combining Infinite Impulse Response (IIR) filters and Neural Networks (NN) is proposed for modeling and optimizing Electromagnetic (EM) structures. This method is based on the characterization of the time response as a transfer function using a digital filter. The use of the neural network allows then the modeling of the geometric variation of the studied structure. The validity of our proposed technique is demonstrated on a step in width and a microstrip filter.

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