Abstracts

Control of Aliasing in the Harmonic Balance Simulation of Nonlinear Microwave Circuits

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The simulation of nonlinear microwave circuits using harmonic balance requires Fourier transformation to interface the frequency domain analysis of the linear subcircuits with the time domain analysis of the nonlinear subcircuits. Subsequent aliasing can unacceptably reduce the accuracy of harmonic balance simulation. Simulation error can be reduced by selecting a large set of frequencies for use in the circuit analysis. Unfortunately, such analyses require extended simulation time. A dual frequency set analysis scheme is proposed which reduces aliasing without requiring excessive simulation time.

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