Abstracts

Cost-Driven Physics-Based Large-Signal Simultaneous Device and Circuit Design

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We present a cost-driven approach to the emerging demand for simultaneous device and circuit design. Here, an analytic physics-based Raytheon model facilitates fast large-signal simulation and optimization. A novel one-sided Huber approach is applied to design centering. The problem of cost-driven design is formulated as the minimization of the cost function while maintaining the required yield. Devices and matching circuits are optimized simultaneously, the advantages of which are demonstrated by a single-stage power amplifier design.

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