Abstracts

Functional Approach to Microwave Postproduction Tuning

This paper deals with the postproduction tuning problem in microwave circuits using the functional approach. The main aspects of the problem are addressed. In particular, we consider the choice of the critical samples of the response, the choice of the most effective tunable parameters, and the description of two functional tuning algorithms. Minimax optimization is used to identify the tuning frequencies, and least-one optimization is employed to minimize the number of tunable parameters. Worst-case analysis is utilized to reduce the size of the problem. The different concepts, definitions, and techniques are illustrated on a simple two-section transformer example. Recent, well-documented, and highly efficient optimization packages are utilized to implement the least-one and minimax optimization problems.

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