Abstracts

Fast analysis and optimization of combline filters using FEM

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We analyze a combline filter using the Finite Element Method (FEM) with ports where the tuning screws would normally be. The filter is tuned with a circuit simulator using the multiport S-parameter data and lumped capacitors at the ports. We can then optimize the combline filter very rapidly by mapping the "coarse" circuit model to the "fine" FEM model. This optimization is shown to converge in one iteration, with a good starting point.

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