Abstract

This paper introduces a new approach to design low pass microwave filter using impulse invariant transform. In this approach, the analog specifications of desired low pass filter is transformed into the digital specification and then apply an optimization technique (DSP based) to get an approximate transfer function in digital domain. Further, the transfer function in continuous time domain is obtained by applying inverse impulse invariant technique. Now the lumped element circuit is obtained by using a classical network synthesis technique on the transfer function in analog domain. The theoretical result of low pass microwave filter is also verified on ADS Simulation tool.
Design of Low Pass Microwave Filter using Impulse Invariant Transform


**Index Terms**

Computer Science  
Signal Processing

**Keywords**

Impulse invariant transform  
Low-pass filter  
Microwave Filter  
Quasi-Newton algorithm.