Abstracts

Using frequency-dependent coupling to generate finite attenuation poles in direct-coupled resonator bandpass filters

S. Amari and J. Bornemann. "Using frequency-dependent coupling to generate finite attenuation poles in direct-coupled resonator bandpass filters." 1999 Microwave and Guided Wave Letters 9.10 (Oct. 1999 [MGWL]): 404-406.

Frequency-dependent coupling sections in direct-coupled resonator bandpass filters are used to generate attenuation poles at finite frequencies. The technique allows the prescription of attenuation poles on either side of the passband, symmetrically or asymmetrically, as opposed to overmoding the resonators where attenuation poles are generated only in the upper stop band. The frequency-dependent coupling sections are also used as inverters to determine the passband response. The classical inverter theory is used to obtain approximate designs which are subsequently optimized to fit the specifications. A third-order filter with four attenuation poles and a fifth-order with two attenuation poles are presented to illustrate the approach.

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