

Seminar on

Analytical Synthesis of Multiband Filters through Frequency Transformation - Microstrip Implementation

by

Prof. Magdalena Salazar Palma

Department of Signal Theory and Communication, Universidad Carlo III de Madrid (UC3M), Spain

Abstract

A method for the design of band-pass filters with multiple pass bands is presented. The key point of this method is a frequency map between single-band resonators and multiple band networks formed by those resonators with additional resonators coupled to them. The mapping problem is a nonlinear one and the mathematical treatment, based on mapping the cut-off frequencies, is not simple. However, the resulting method is quite straightforward: first, synthesize a single-band equivalent filter; then, couple to each resonator a set of as many resonators as pass bands minus one, being the sets identical between them. The method is illustrated by designing several microstrip prototypes with one to three bands. They consist of conventional parallel-coupled half-wavelength resonator filters with additional hairpin or meandered resonators.

Biography

Magdalena Salazar-Palma was born in Granada, Spain. She is with the Department of Signal Theory and Communications, *Universidad Carlos III de Madrid (UC3M)*, Spain, where she is Full Professor, co-director of the Radiofrequency Research Group and served for three years as Chairperson of the Department. She has been member of numerous University Committees, both at UPM and UC3M.

She has developed her research in a number of areas of electromagnetic field theory. She has authored a total of 575 scientific publications. She has coauthored 2 European and USA patents. She has participated in a total of 88 research projects and contracts, financed by international, European, and national institutions and companies. She has received three research awards. She is a registered engineer in Spain.

Since 1989, she has served IEEE under different volunteer positions: Vice Chairperson and Chairperson of IEEE Spain Section AP-S/MTT-S Joint Chapter, President of IEEE Spain Section, Chairperson of IEEE Region 8 Conference Coordination Subcommittee, Chairperson of IEEE WIE Committee. In December 2009 she was elected 2011 President of IEEE AP-S Society, acting as Vice President during 2010, serving as President and as member of IEEE Technical Activities Board (TAB) during 2011. Currently she is IEEE AP-S Past President, member of IEEE AP-S Administrative Committee, chairperson of IEEE AP-S Nominations Committee, and General Chairperson of 2014 IEEE Sections Congress.

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City University of Hong Kong

*** ALL ARE WELCOME ***

Enquiries: Prof Kwok Wa Leung, Department of Electronic Engineering
Tel. : 3442 9659 Fax : 27887791 e-mail: ekleung@cityu.edu.hk