

EDISON

Electromagnetic Design of
flexible Sensors



Filters optimization, wideband MOR

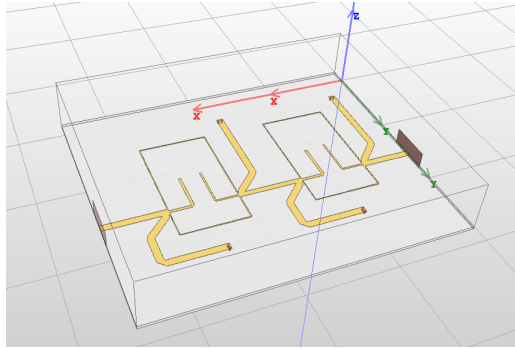
dr eng. Grzegorz Fotyga
April 9, 2019



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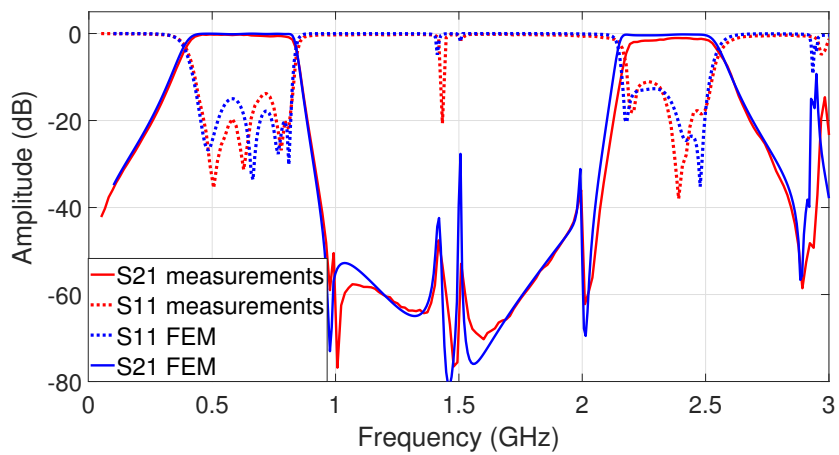
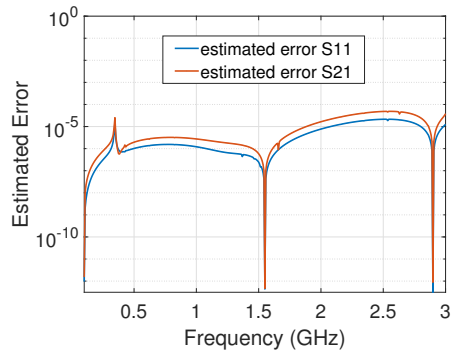
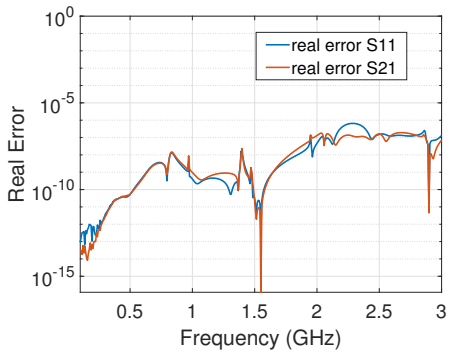
1 Introduction

2 Filter Roberto

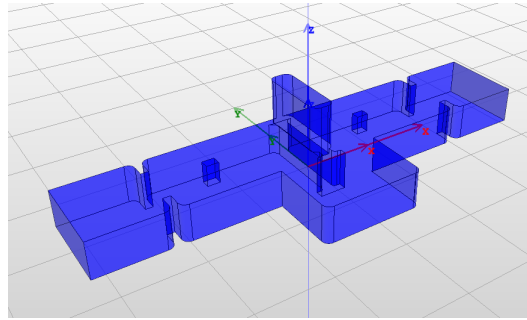


Number of variables	552226
Number of frequency points	401
Lossy	0
Absorbing Boundary conditions	1

	Time [s]	Speed-up	Basis size
FEM	15383.6	-	-
RGM-MOR	378.02	40.7	86
RBM	354.0	14.0	48

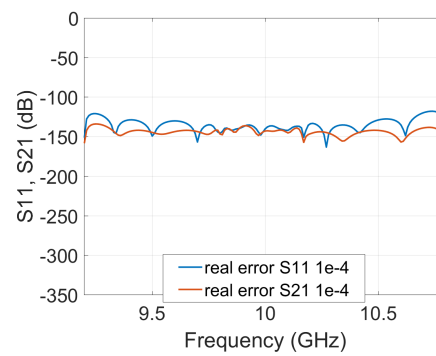
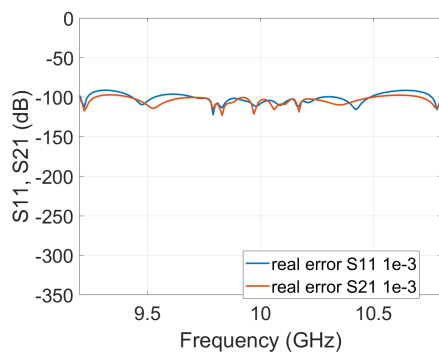
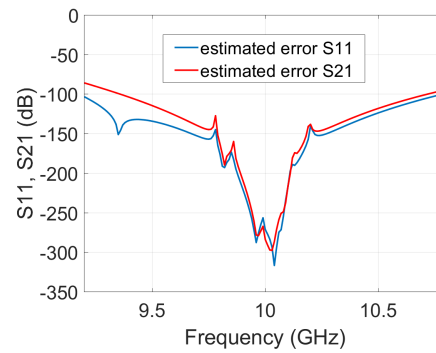
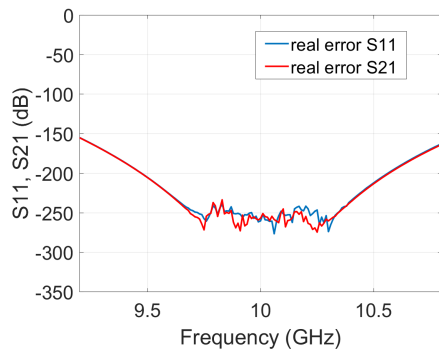


3 Szydowski filter



Number of variables	815370
Number of frequency points	161
Lossy	0
Absorbing Boundary conditions	0

	Time [s]	Speed-up	Basis size
FEM	953.4	-	-
RGM-MOR	25.7	25.7	18
RBM	354.0	14.0	48



FEM time	953.4
Number of variables	815370
Number of frequency points	161
Lossy	0
Absorbing Boundary conditions	0
RGM-MOR reduction time	25.768
Number of vectors in the basis	18
Interpolating sweep time (1e-3/1e-4)	142.716 / 152.490
Number of solutions (1e-3/1e-4)	20 / 21