

AFMG Reflex Report



Creation date: 26/08/2012
AFMG Reflex Version: 1.0.6

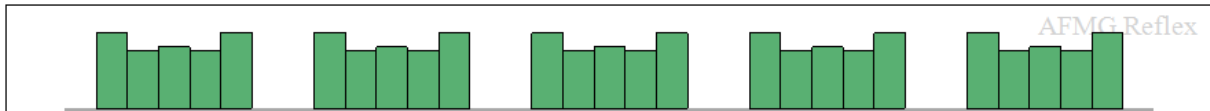
1. Models

1.1 New Model10

1.1.1 Description

Array of five N=7 Stepped Diffusers, optimized by Trevor J. Cox
 [Trevor J. Cox, "The Optimization of Profiled Diffusers", 1994]

1.1.2 Model Outline

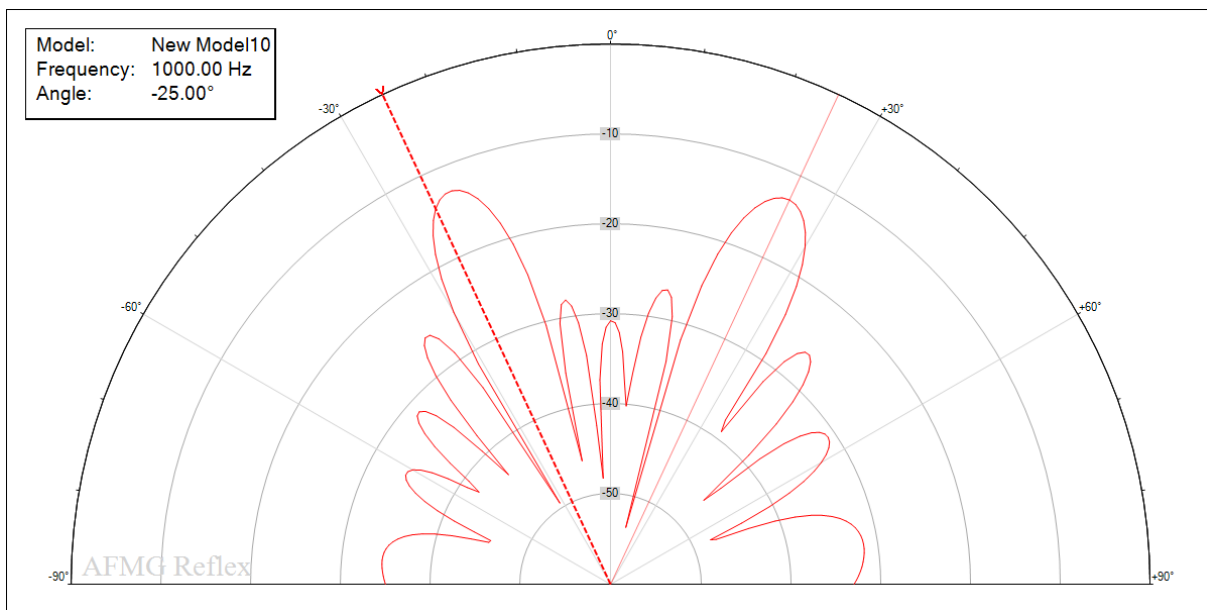


Model Outline

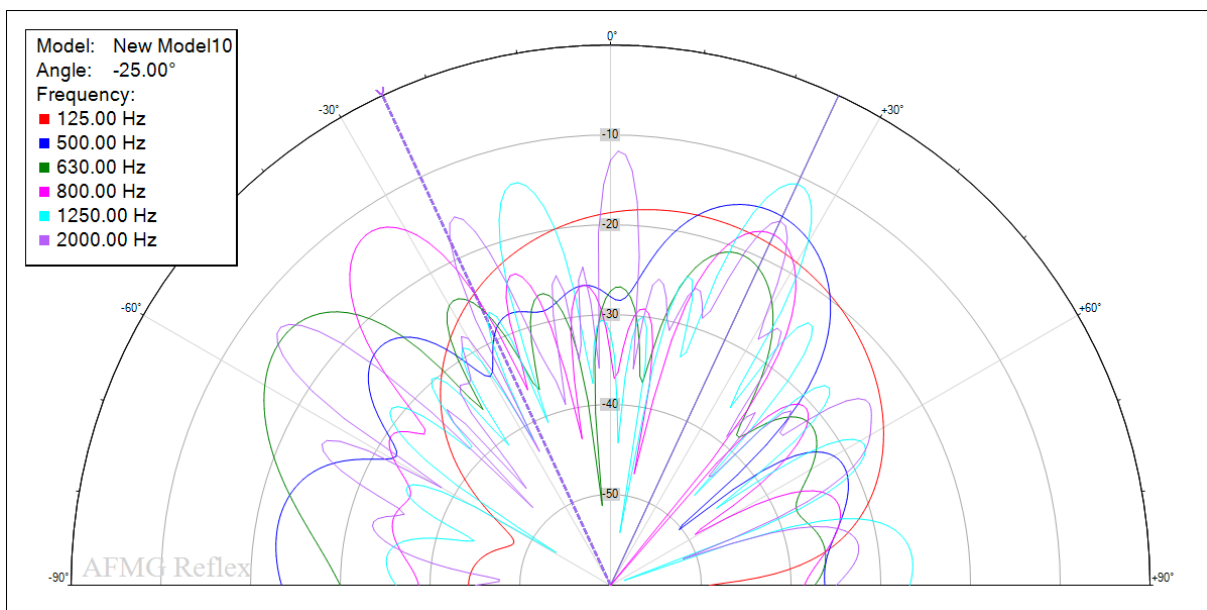
Element no.	Type	Width[cm]	Depth Base[cm]	Depth Top[cm]
1	Rectangle	6.1	0.0	0.0
2	Rectangle	6.1	14.8	0.0
3	Rectangle	6.1	11.3	0.0
4	Rectangle	6.1	12.0	0.0
5	Rectangle	6.1	11.3	0.0
6	Rectangle	6.1	14.8	0.0
7	Rectangle	6.1	0.0	0.0
8	Rectangle	6.1	0.0	0.0
9	Rectangle	6.1	14.8	0.0
10	Rectangle	6.1	11.3	0.0
11	Rectangle	6.1	12.0	0.0
12	Rectangle	6.1	11.3	0.0
13	Rectangle	6.1	14.8	0.0
14	Rectangle	6.1	0.0	0.0
15	Rectangle	6.1	0.0	0.0
16	Rectangle	6.1	14.8	0.0
17	Rectangle	6.1	11.3	0.0
18	Rectangle	6.1	12.0	0.0
19	Rectangle	6.1	11.3	0.0
20	Rectangle	6.1	14.8	0.0
21	Rectangle	6.1	0.0	0.0
22	Rectangle	6.1	0.0	0.0
23	Rectangle	6.1	14.8	0.0
24	Rectangle	6.1	11.3	0.0
25	Rectangle	6.1	12.0	0.0
26	Rectangle	6.1	11.3	0.0

27	Rectangle	6.1	14.8	0.0
28	Rectangle	6.1	0.0	0.0
29	Rectangle	6.1	0.0	0.0
30	Rectangle	6.1	14.8	0.0
31	Rectangle	6.1	11.3	0.0
32	Rectangle	6.1	12.0	0.0
33	Rectangle	6.1	11.3	0.0
34	Rectangle	6.1	14.8	0.0
35	Rectangle	6.1	0.0	0.0

1.1.3 Spatial Response Plots



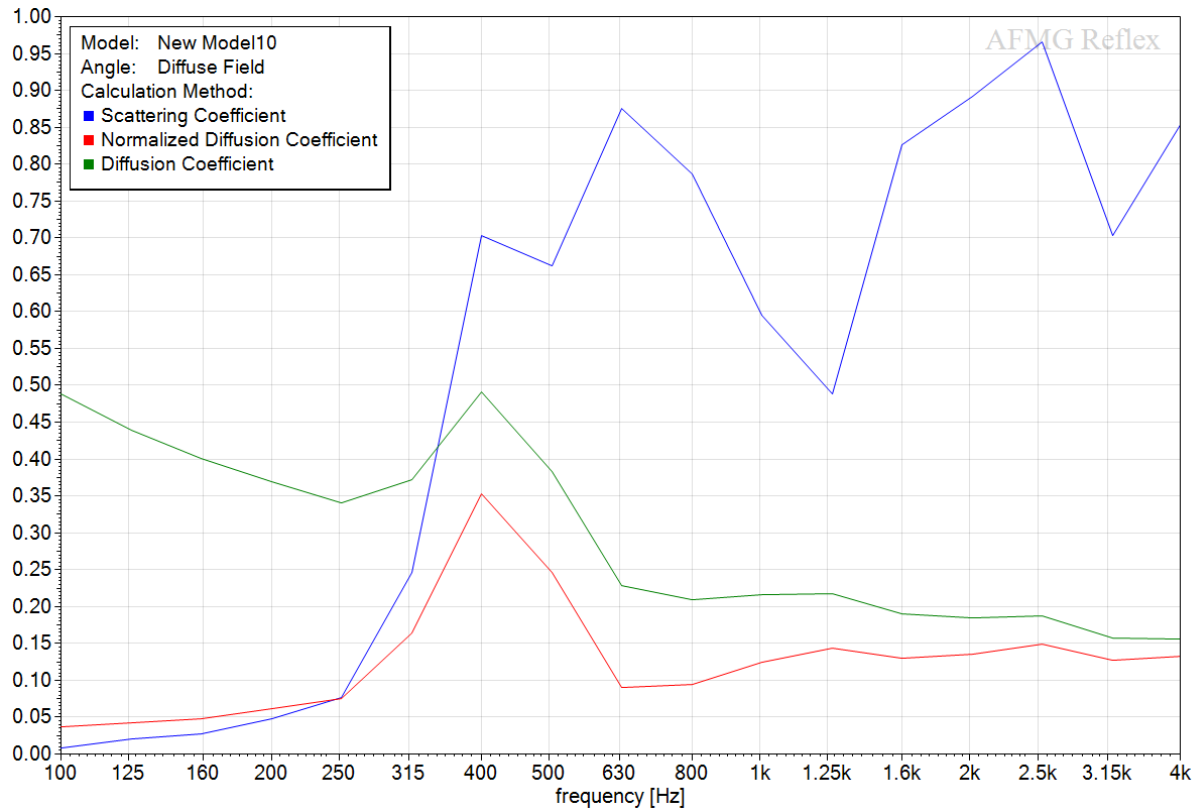
Spatial Response



Spatial Response

1.1.4 Coefficients Plots

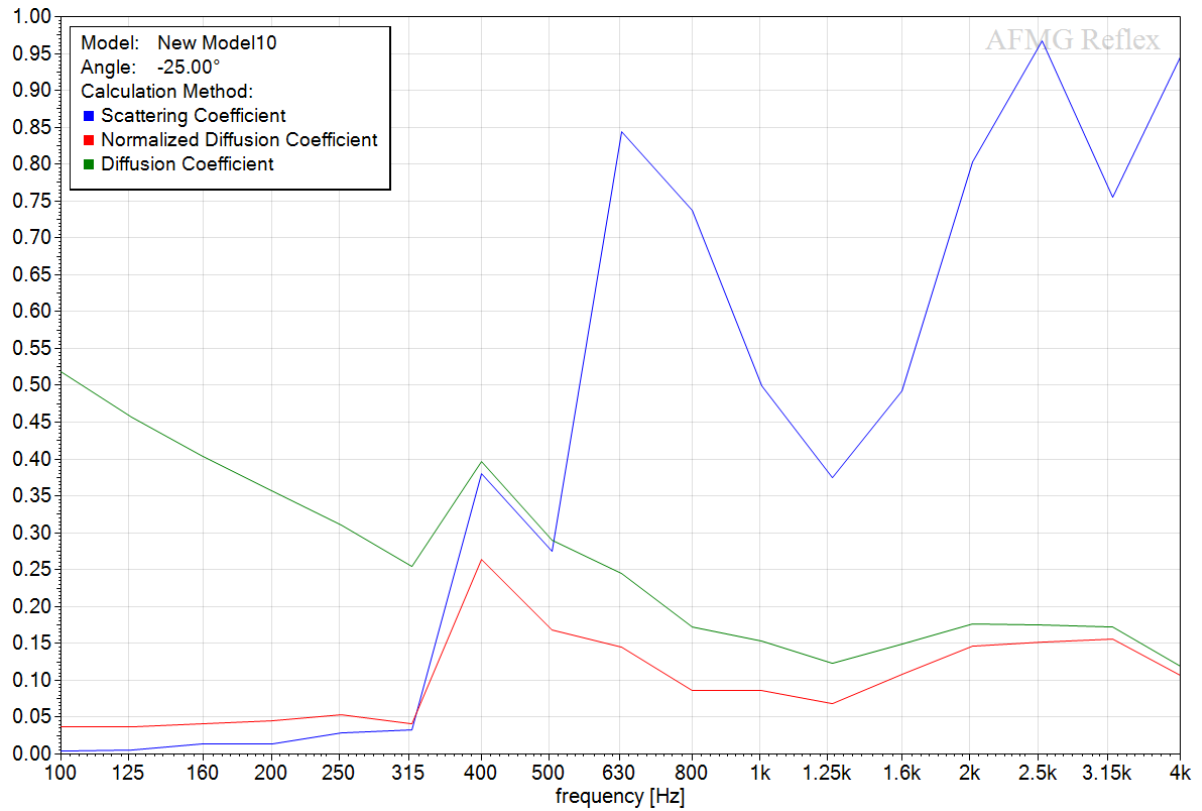
Angle: Random Incidence, Frequency Range: [100 Hz, 4000 Hz]



Coefficients

Frequency [Hz]	Scattering Coefficient	Normalized Diffusion Coefficient	Diffusion Coefficient
100	0.009	0.038	0.488
125	0.021	0.042	0.439
160	0.027	0.048	0.401
200	0.047	0.061	0.369
250	0.076	0.075	0.341
315	0.246	0.164	0.372
400	0.703	0.353	0.491
500	0.662	0.247	0.383
630	0.876	0.090	0.229
800	0.786	0.094	0.209
1000	0.596	0.124	0.216
1250	0.488	0.144	0.217
1600	0.826	0.129	0.190
2000	0.891	0.136	0.184
2500	0.966	0.149	0.187
3150	0.704	0.127	0.157
4000	0.858	0.132	0.156

Angle: -25°, Frequency Range: [100 Hz, 4000 Hz]



Coefficients

Frequency [Hz]	Scattering Coefficient	Normalized Diffusion Coefficient	Diffusion Coefficient
100	0.004	0.037	0.519
125	0.005	0.038	0.457
160	0.014	0.041	0.404
200	0.014	0.046	0.358
250	0.029	0.054	0.311
315	0.032	0.042	0.254
400	0.380	0.264	0.396
500	0.275	0.168	0.290
630	0.844	0.146	0.246
800	0.737	0.087	0.172
1000	0.500	0.086	0.153
1250	0.375	0.068	0.123
1600	0.492	0.108	0.149
2000	0.803	0.146	0.176
2500	0.967	0.152	0.175
3150	0.755	0.156	0.173
4000	0.951	0.105	0.118