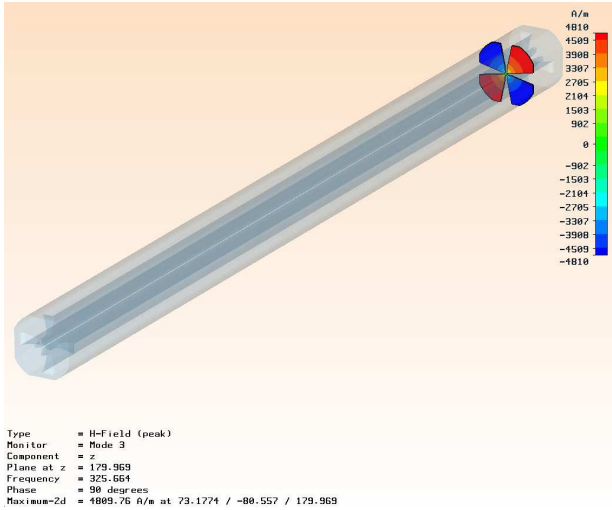
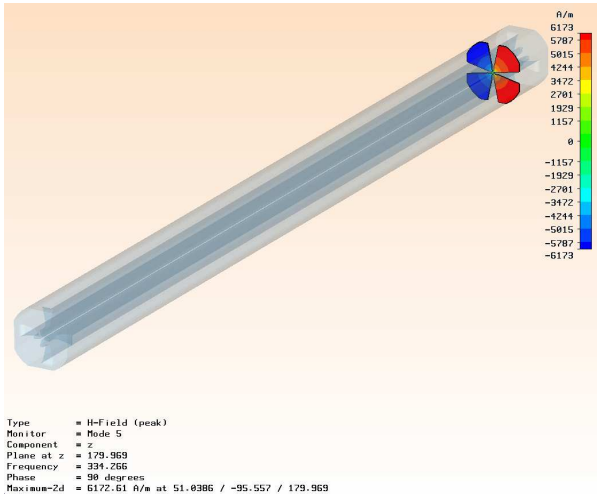
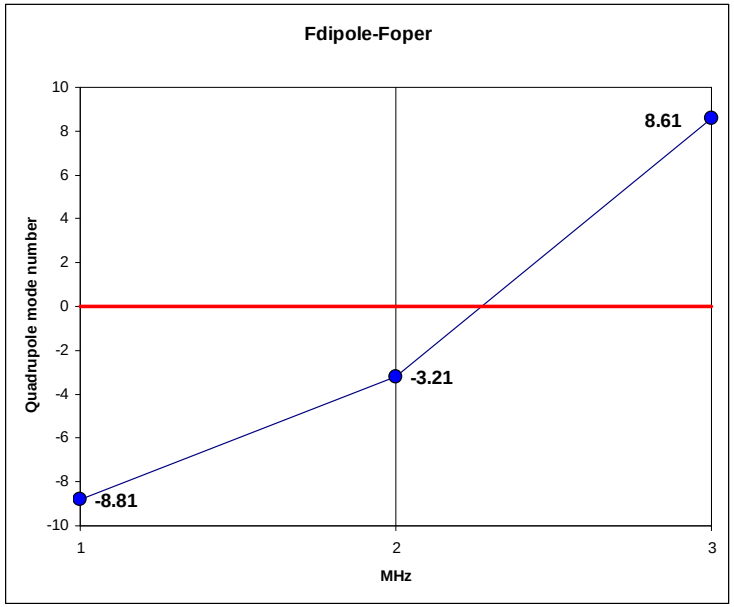
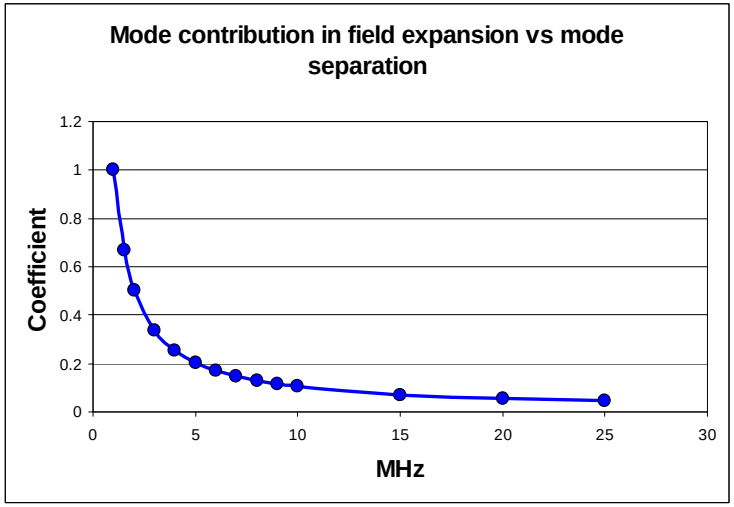
RFQ frequencies

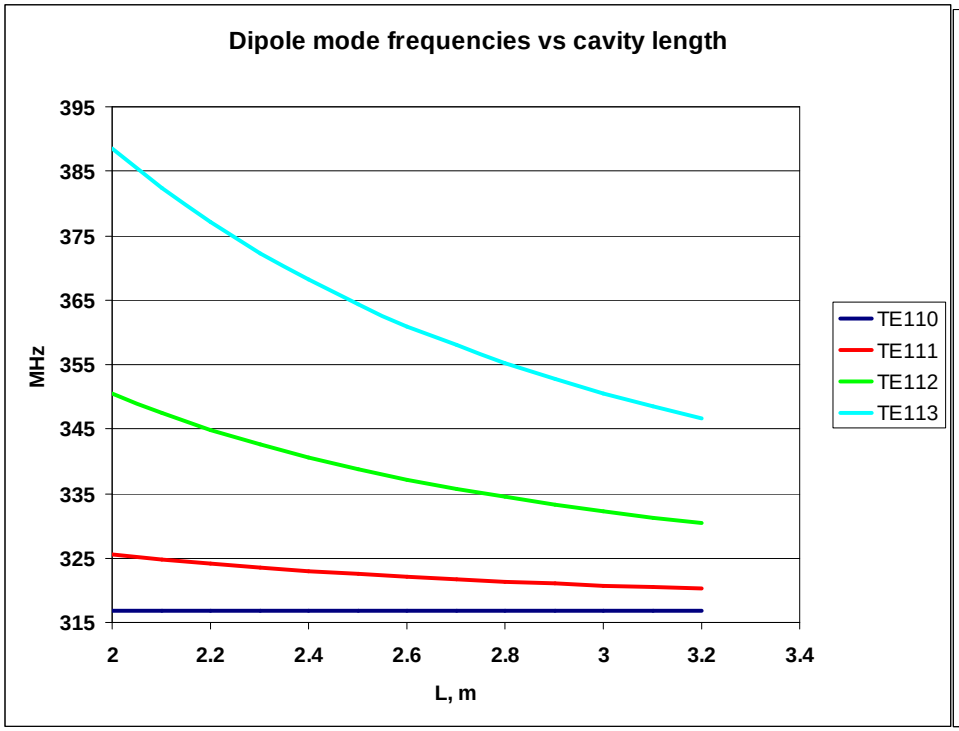


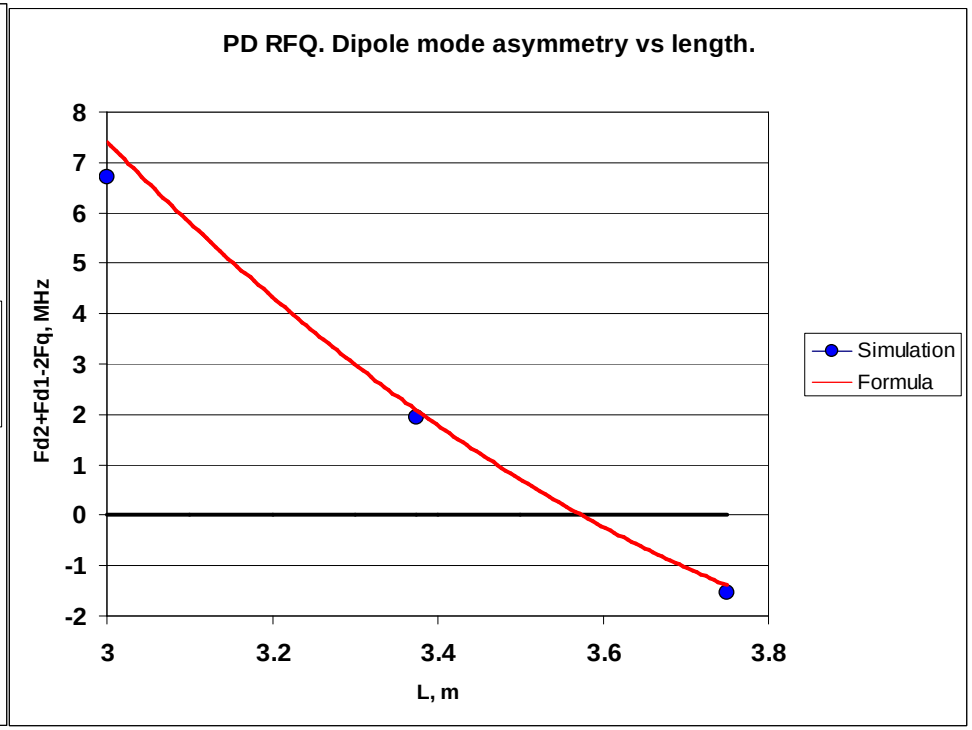






RFQ length



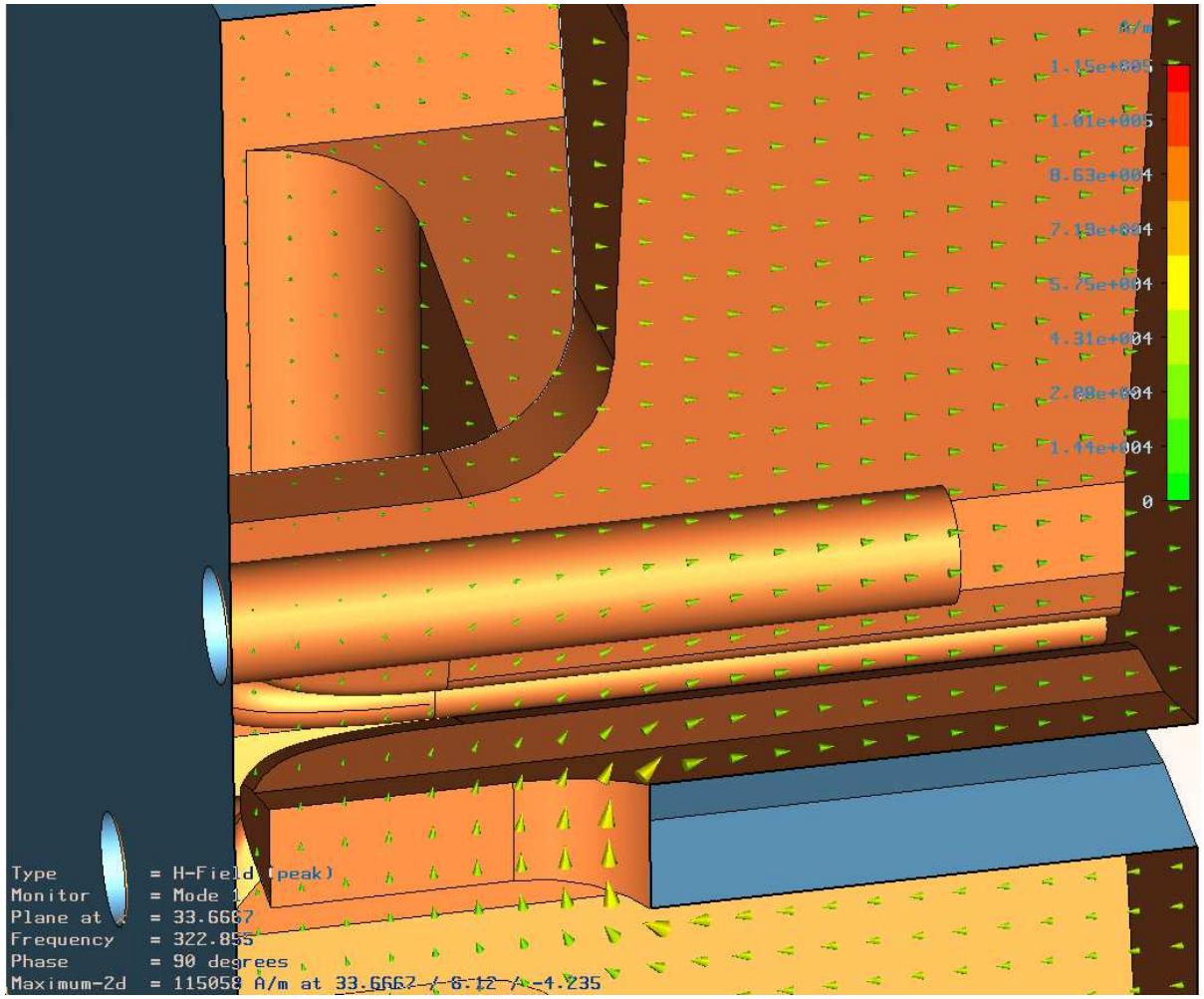


$$f = c\sqrt{\chi^2 + ((n-1)\pi / L)^2}$$

n – mode number

Dipole mode asymmetry
f_d1+f_d2 – 2f_q => 0
at optimal RFQ length
(in abs numbers ± 4.3 MHz)

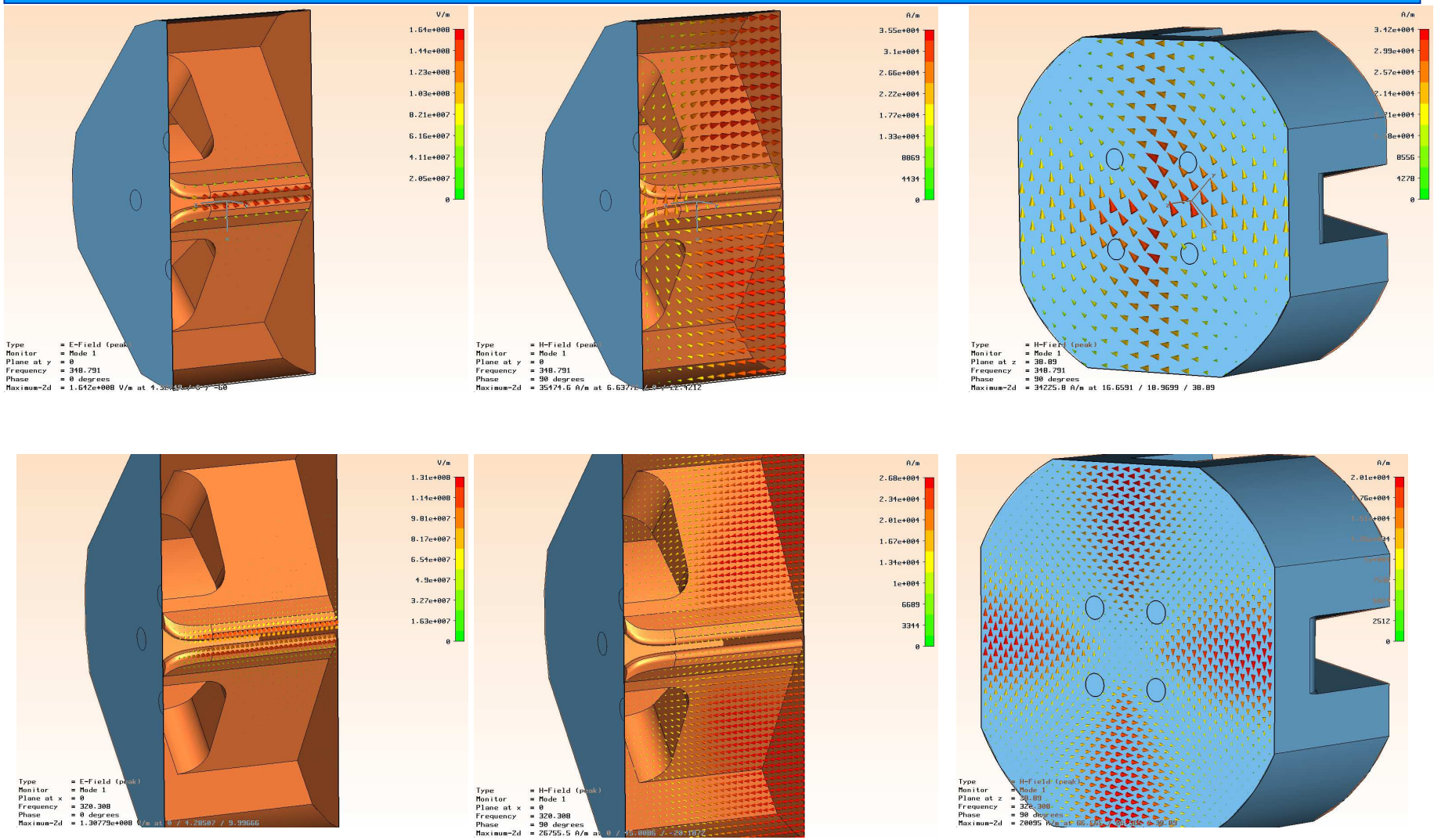
Fingers



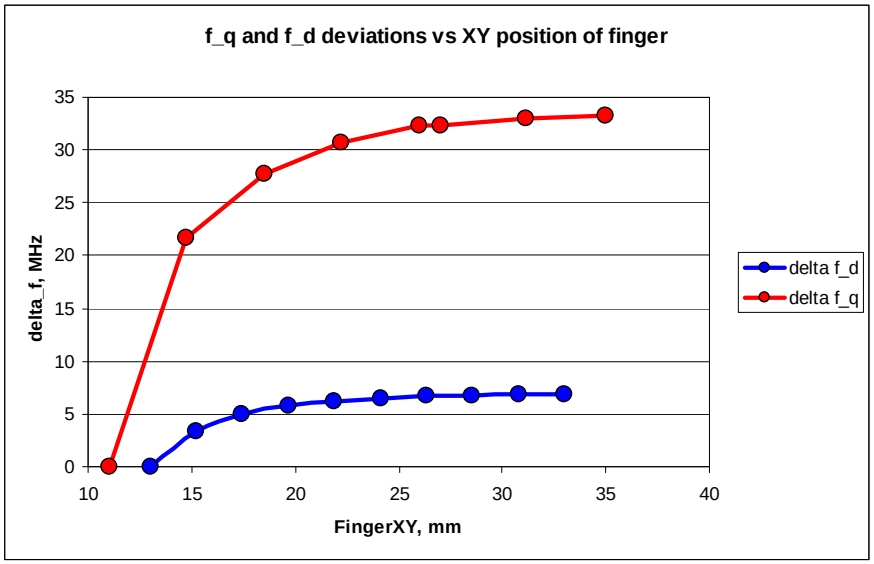
Dipoles go down by 1-1.5 MHz (?).

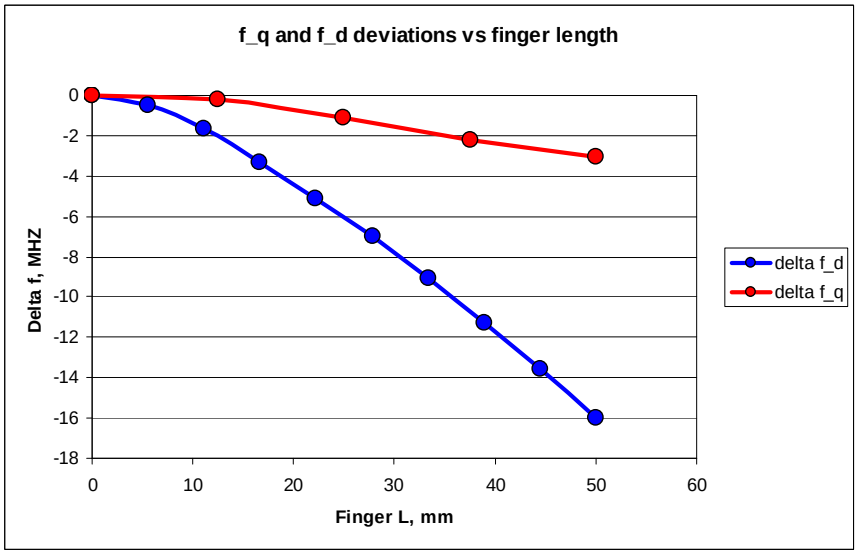
Find optimal parameters: length, position (x,y), radius.

Fingers


V/m
1.64e+008
1.44e+008
1.23e+008
1.03e+008
8.21e+007
6.16e+007
4.11e+007
2.05e+007
0
Type = E-Field (peak)
Monitor = Mode 1
Plane at y = 0
Frequency = 348.791
Phase = 0 degrees
Maximum-Zd = 1.642e+008 V/m at
A/m
3.55e+004
3.1e+004
2.66e+004
2.22e+004
1.77e+004
1.33e+004
8869
4434
0
Type = H-Field (peak)
Monitor = Mode 1
Plane at y = 0
Frequency = 348.791
Phase = 90 degrees
Maximum-Zd = 35474.6 A/m at
A/m
3.42e+004
2.99e+004
2.57e+004
8556
4278
0
Type = H-Field (peak)
Monitor = Mode 1
Plane at z = 38.89
Frequency = 348.791
Phase = 90 degrees
Maximum-Zd = 34225.8 A/m at 16.6591 / 18.9699 / 38.89
V/m
1.31e+008
1.14e+008
9.81e+007
8.17e+007
6.54e+007
4.9e+007
3.27e+007
1.63e+007
0
Type = E-Field (peak)
Monitor = Mode 1
Plane at x = 0
Frequency = 320.308
Phase = 0 degrees
Maximum-Zd = 1.30779e+008 V/m at 0 / 4.28507 / 9.99666
A/m
2.68e+004
2.34e+004
2.01e+004
1.67e+004
1.34e+004
1e+004
6689
3344
0
Type = H-Field (peak)
Monitor = Mode 1
Plane at x = 0
Frequency = 320.308
Phase = 90 degrees
Maximum-Zd = 26755.5 A/m at 0 / 45.0086 / -28.1072
A/m
2.01e+004
2512
0
Type = H-Field (peak)
Monitor = Mode 1
Plane at z = 38.89
Frequency = 320.308
Phase = 90 degrees
Maximum-Zd = 20095 A/m at

Fingers

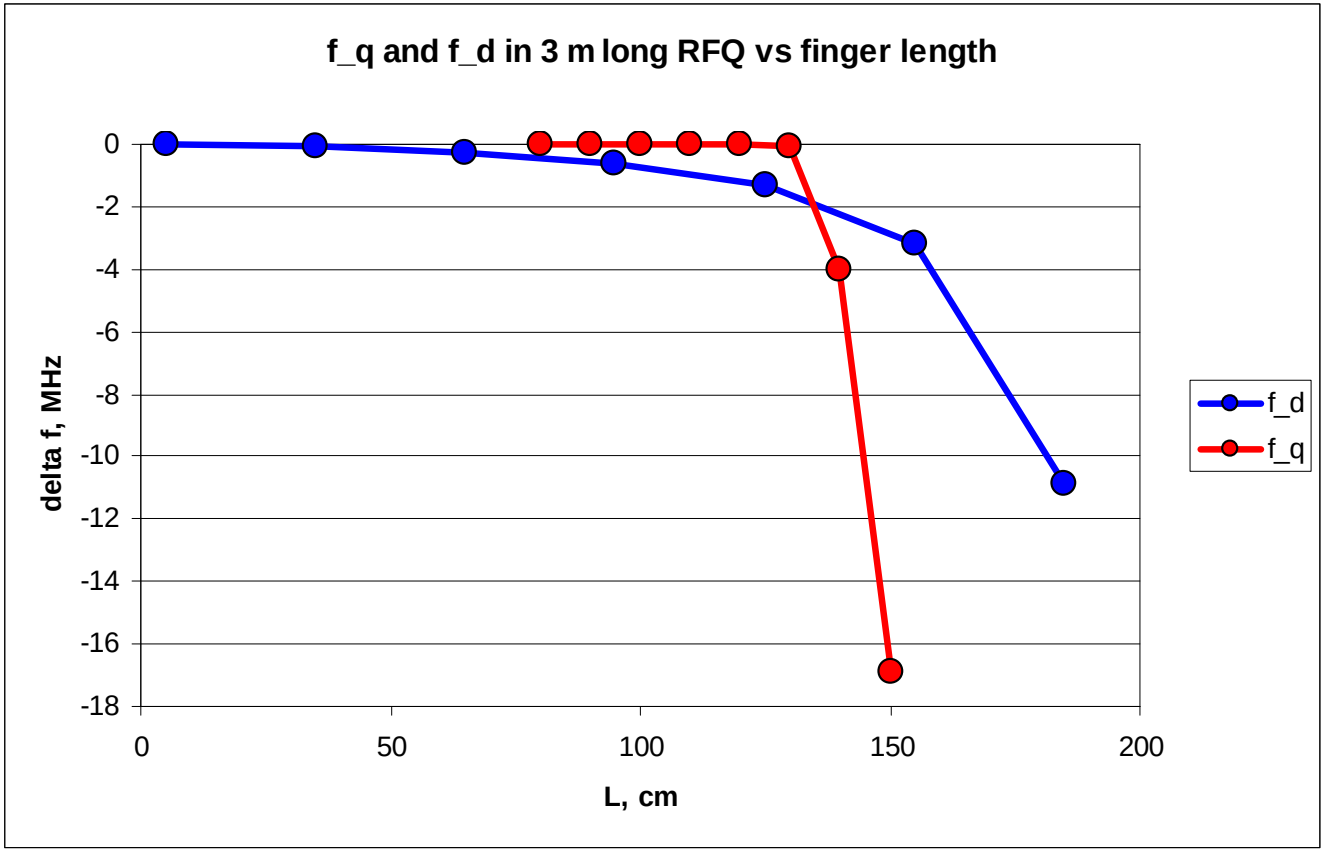




R = 6 mm
L = 20 mm

R= 6 mm
X=Y= 20 mm

Fingers



Field distribution at the ends?