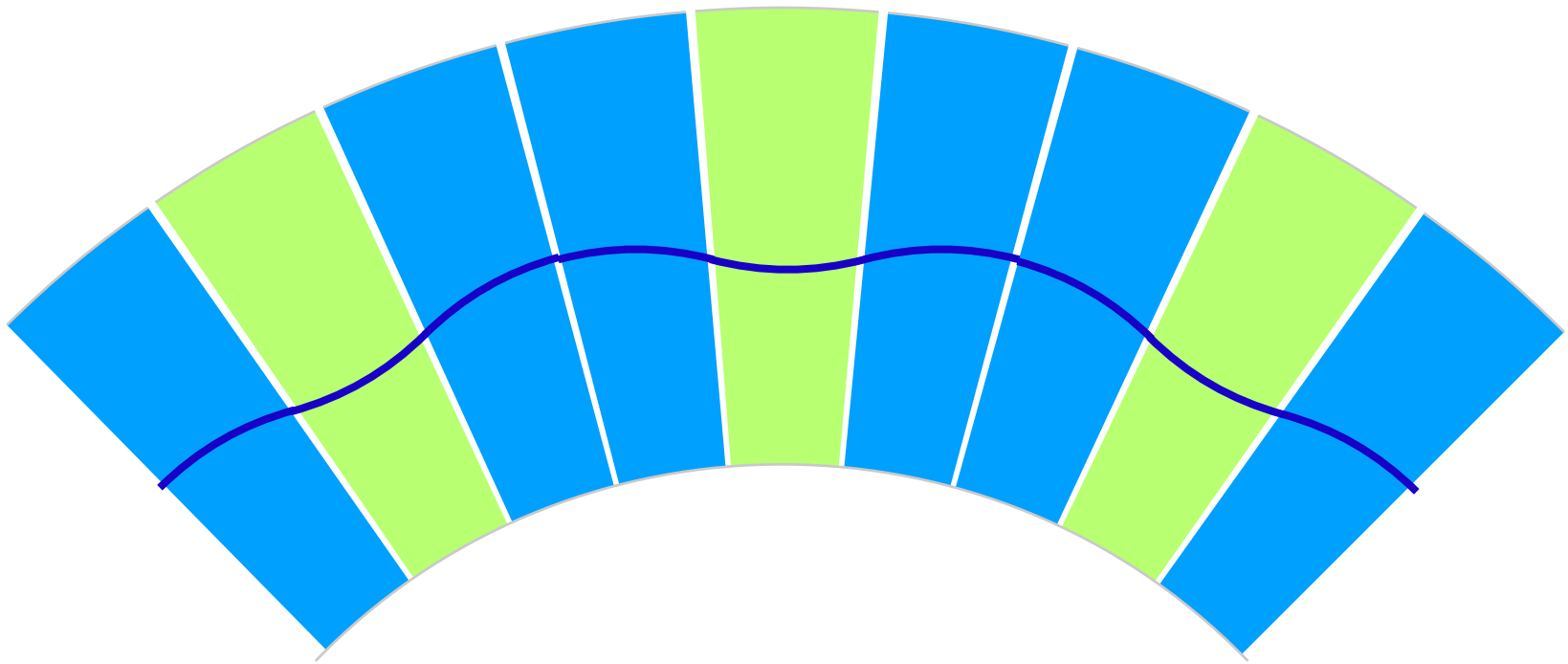
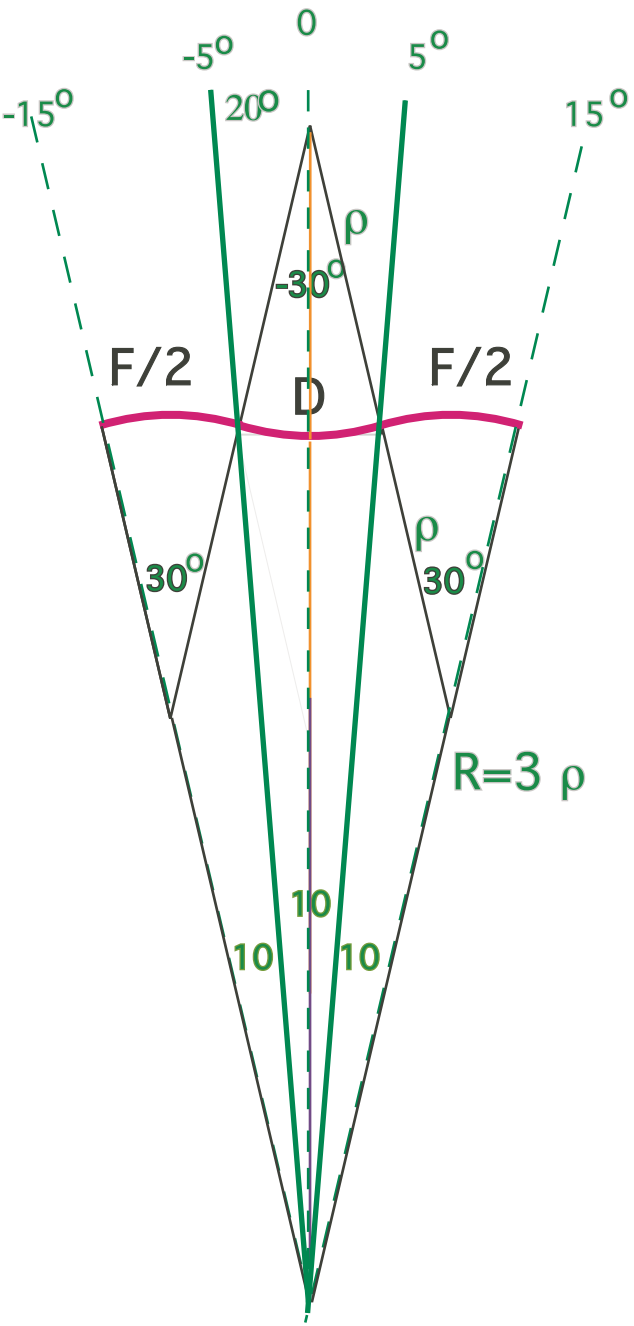
A SCALING 12-CELL FFAG MUON COOLING RING

Al Garren, UCLA

October 28, 2003



Cell Layout



Ring Center

$k = nd = -nf = 2.7$

$B/B0 = (R/R0)^{k} = (\rho/\rho o)^{-n}$

$P/P0 = (R/R0)^{k+1}$

$(R/R0) = (P/P0)^{1/k+1}$

$D = dR/d(p/po) = R/(k+1) = .2581m$

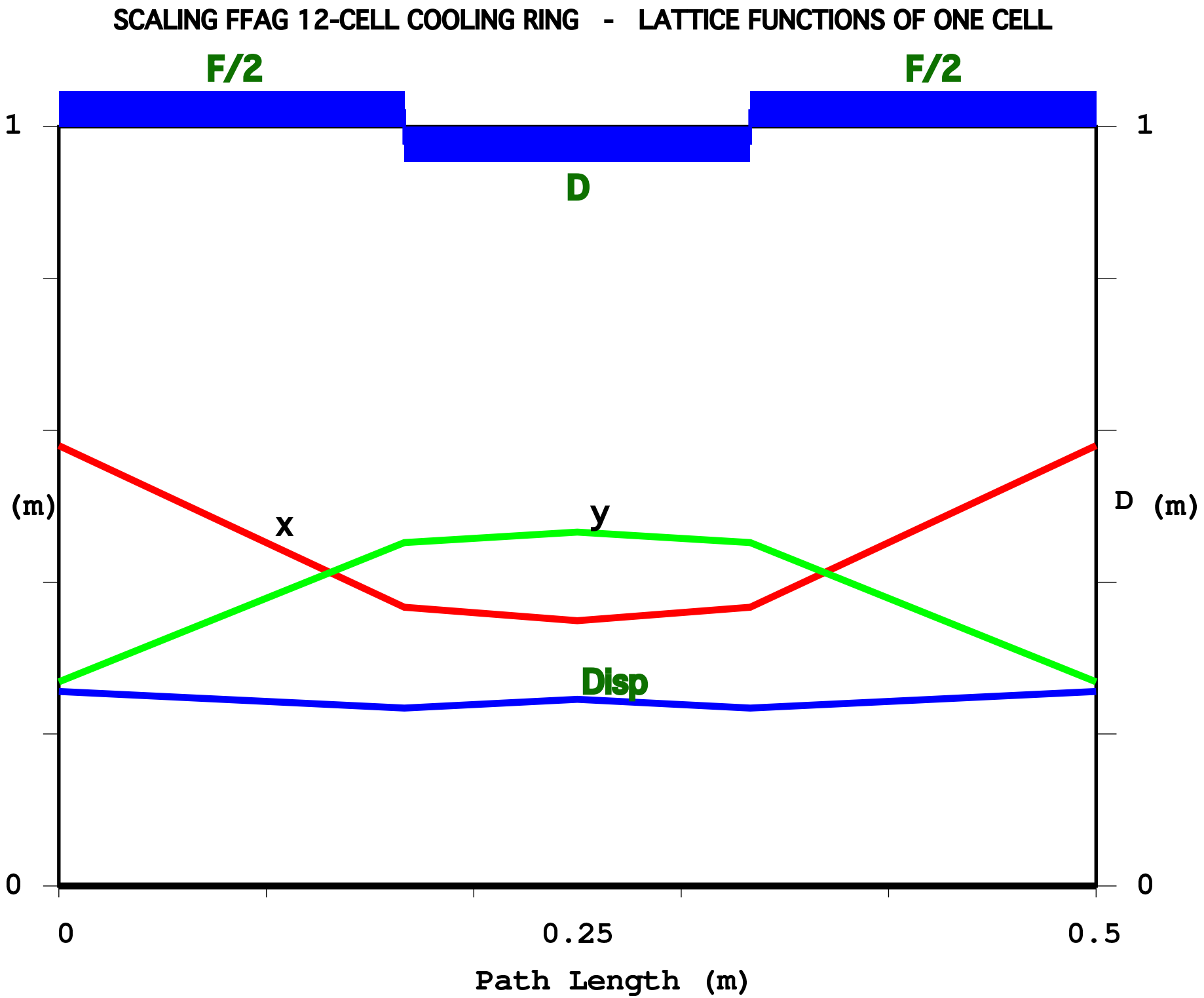
$Lf = .3333m$; $Ld = .1667m$

$Lcell = 0.5m$; Circumference = 6m

$\rho 0 = .3183m$; $R0 = .9549m$; $B0 = 2.620T$

$pc = 0.25$ GeV ; $B\rho = 0.8339$ m

P/P0	P GeV/c	R/R0	 m	R m	R-R0 m
1.3	.325	1.0735	.342	1.025	.0702
1.2	.300	1.0505	.334	1.003	.0482
1.1	.275	1.0261	.327	0.980	.0249
1.0	.250	1.0000	.318	0.955	.0000
0.9	.225	.9719	.309	0.928	-.0268
0.8	.200	.9415	.300	0.899	-.0559
0.7	.175	.9081	.289	0.867	-.0878


SCALING FFAG 12-CELL COOLING RING - LATTICE FUNCTIONS OF ONE CELL
F/2
F/2
D
1
1
(m)
D (m)
x
y
Disp
0
0
0
0.25
0.5
Path Length (m)