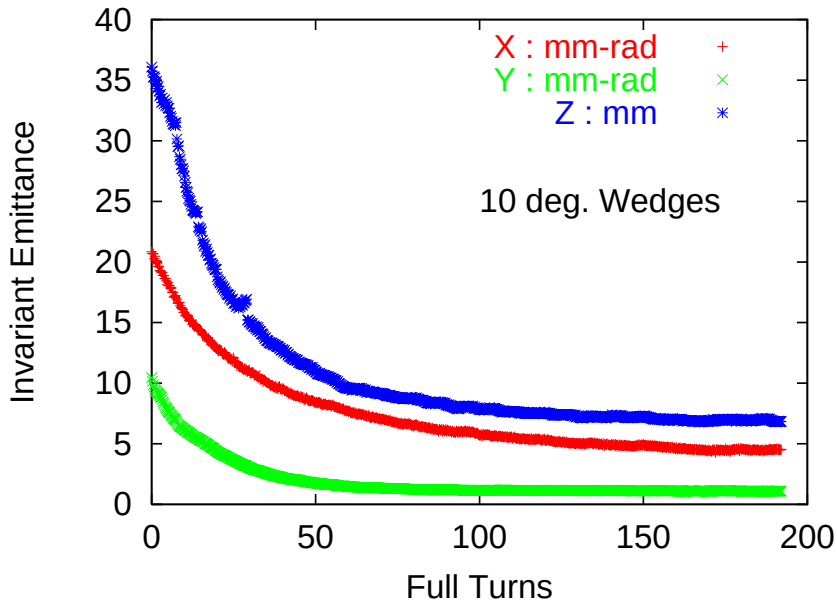
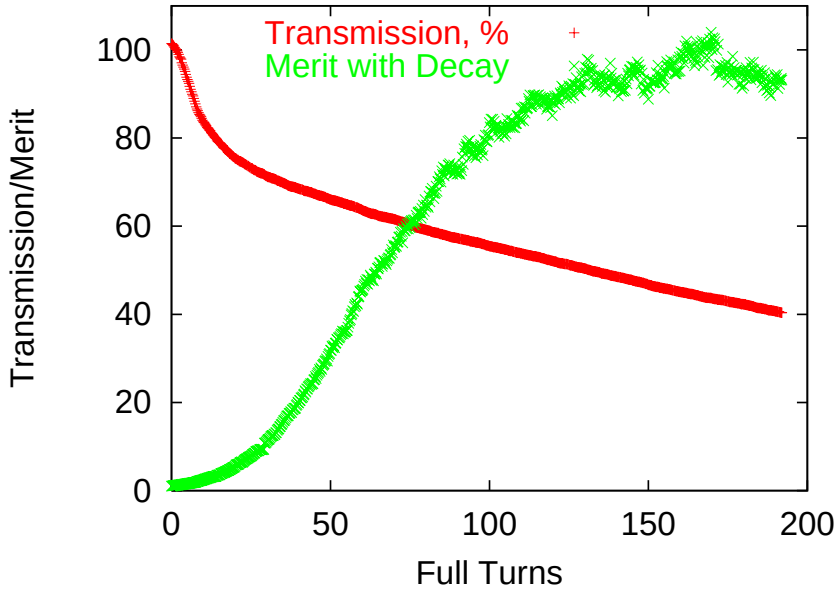
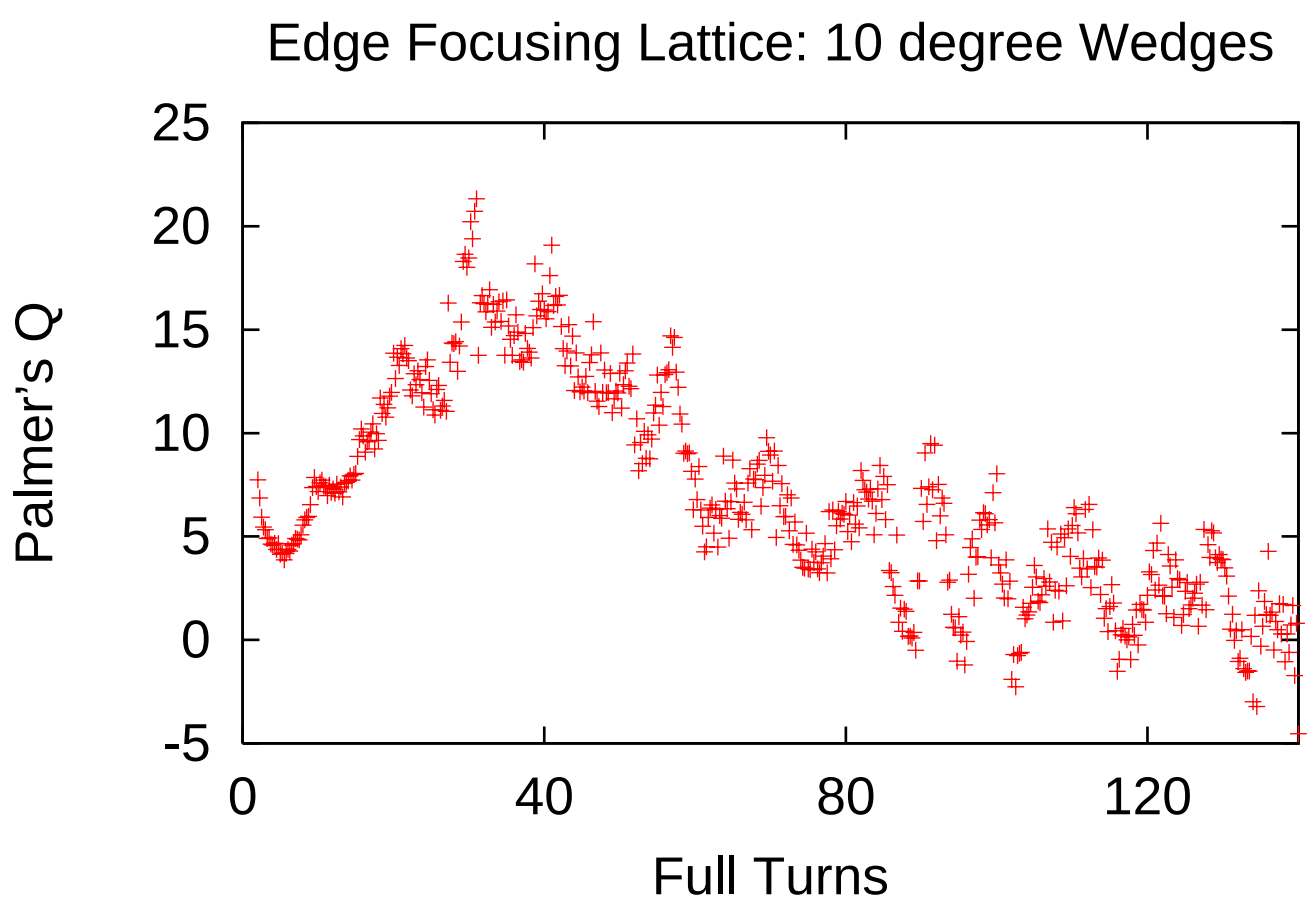
Edge Focusing Lattice: 10° Wedges

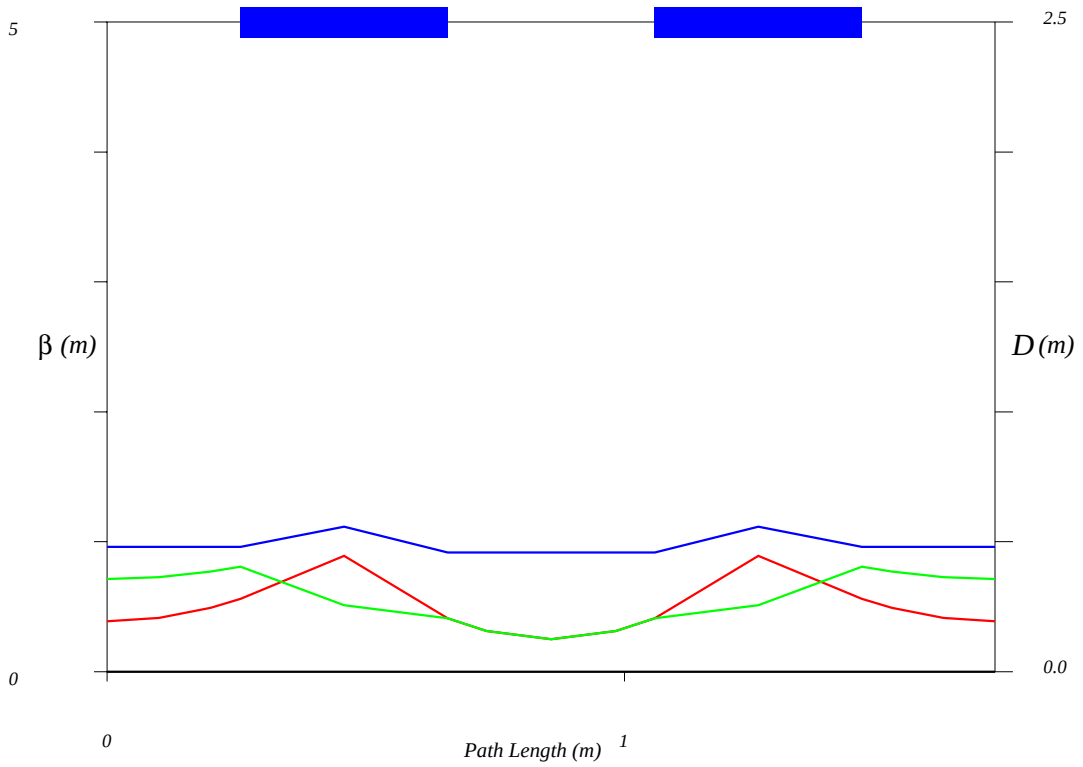
Performance at 500 MeV/c






Edge Focusing Lattice: 10 degree Wedges
Palmer's Q
25
20
15
10
5
0
-5
0
40
80
120
Full Turns

The Two Cell Dipole-only Cooling Ring



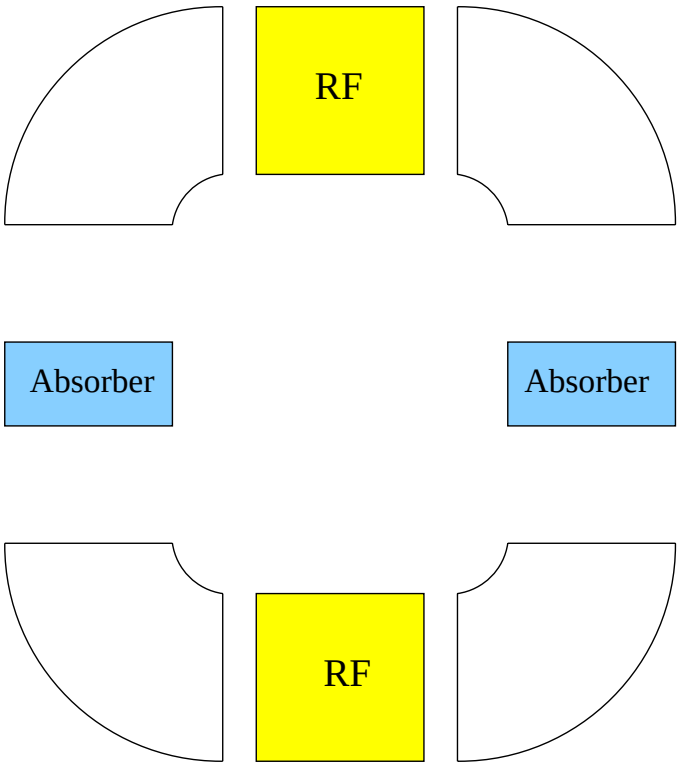
$p_0 = 250$ MeV/c

Dipole fields (250 MeV/c): 3.2 T

90° Bending Cells

Circumference: 3.4 m

The Two Cell Dipole only Ring

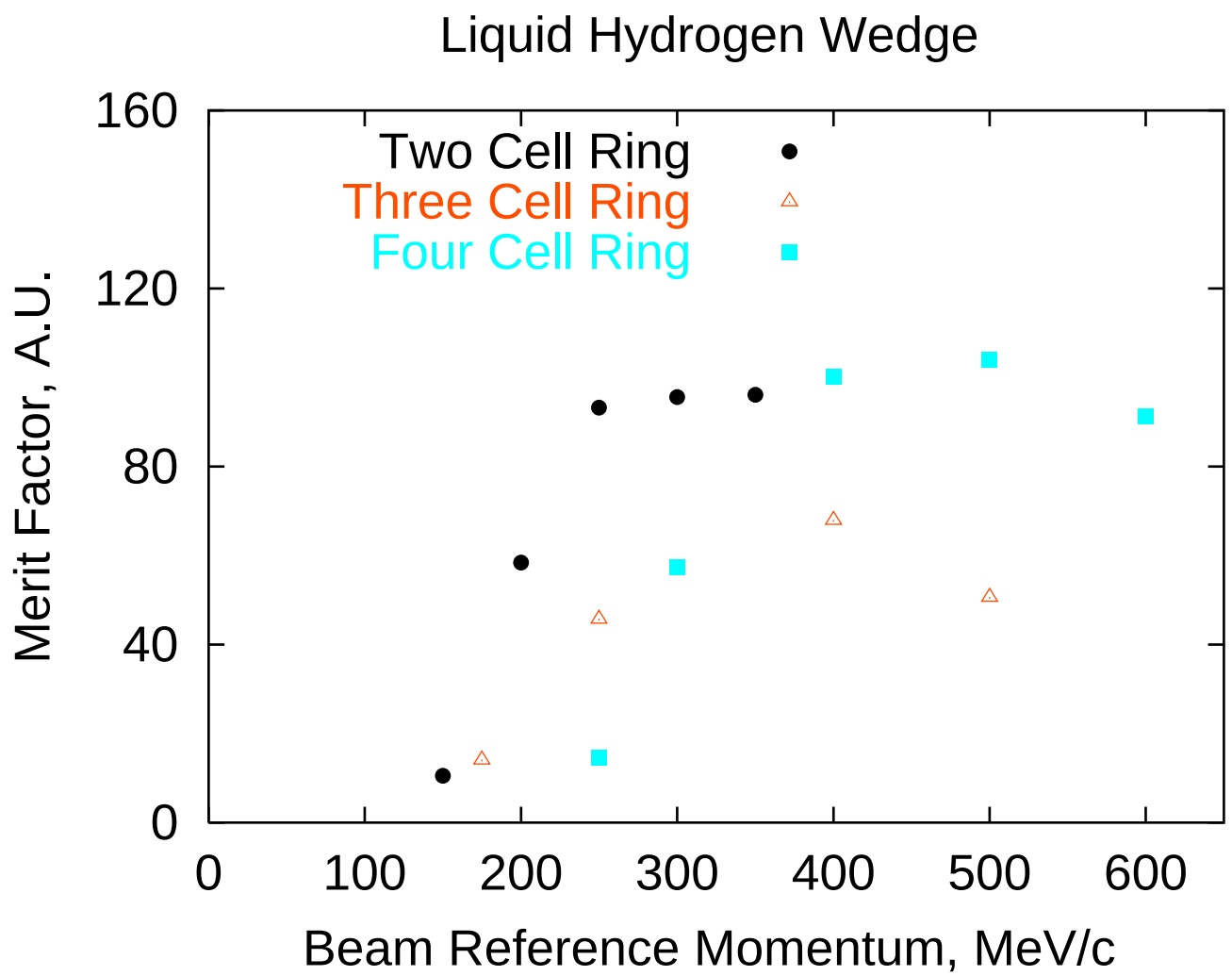


Two 10cm LH Absorbers with 4° Faces

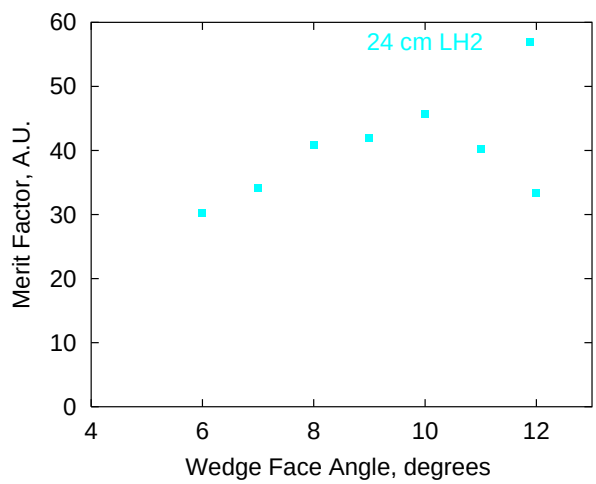
Four 90° Bending Dipoles

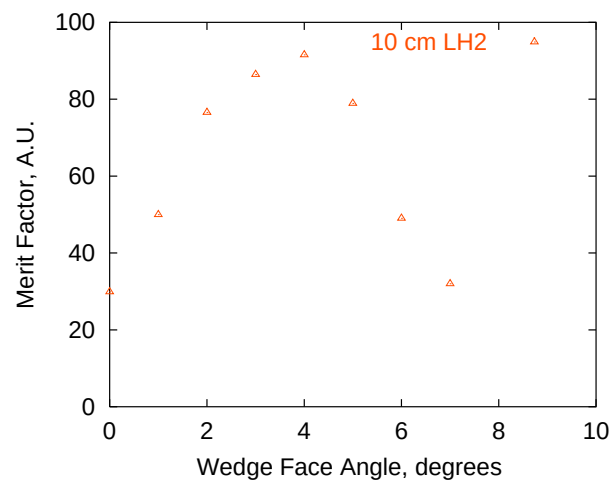
For P_0 = 250 MeV/c B=3T

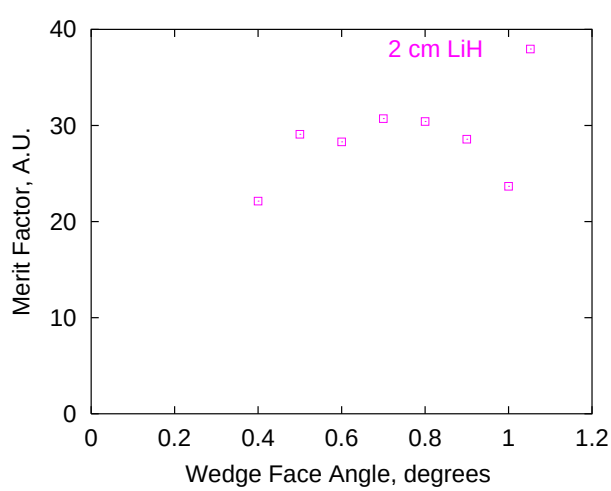
RF E_{max}=16MV


Liquid Hydrogen Wedge
Two Cell Ring
Three Cell Ring
Four Cell Ring
Merit Factor, A.U.
0
40
80
120
160
0
100
200
300
400
500
600
Beam Reference Momentum, MeV/c

The Wedge Face Angle







David Neuffer: MUC0227

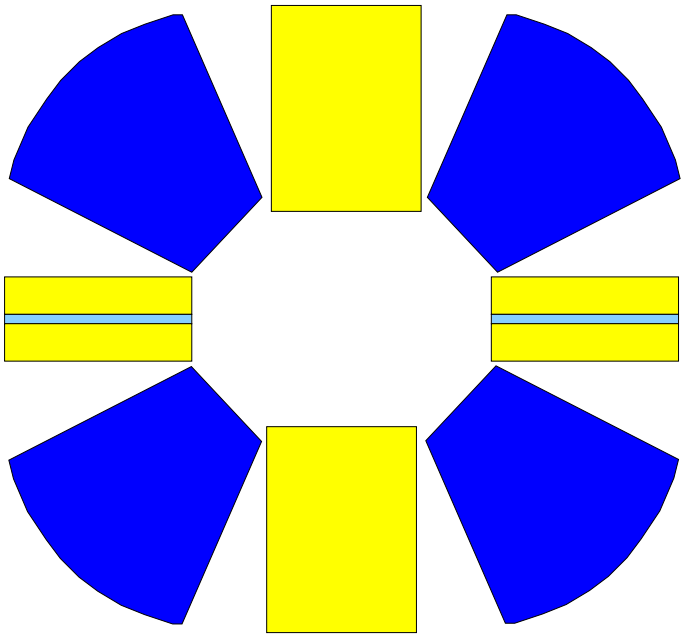
$$\Delta g_L = \eta \frac{2tan\theta}{L_{Absorber}}$$

24 cm LH_2 $\Delta g_L = 0.68$

10 cm LH_2 $\Delta g_L = 0.64$

2 cm LiH $\Delta g_L = 0.72$

The Two Cell Dipole only Ring



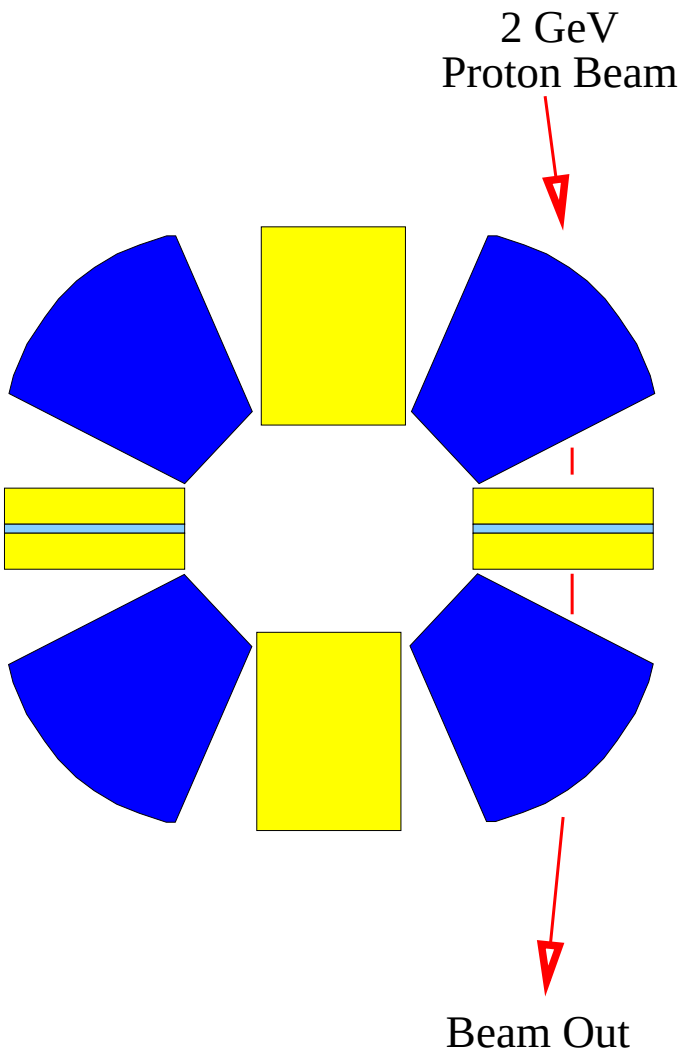
Two 2cm LiH Absorbers with 1° Faces

Four 90° Bending Dipoles

For P_0 = 250 MeV/c B=3T

Two (30 + 16) cm RF Cells E_{max}=16MV

Internal Muon Production



2 GeV Proton Beam In

Pion Production via $N^* \rightarrow n\ \pi^+$

$\pi^+ \rightarrow \mu^+\ \nu\nu$