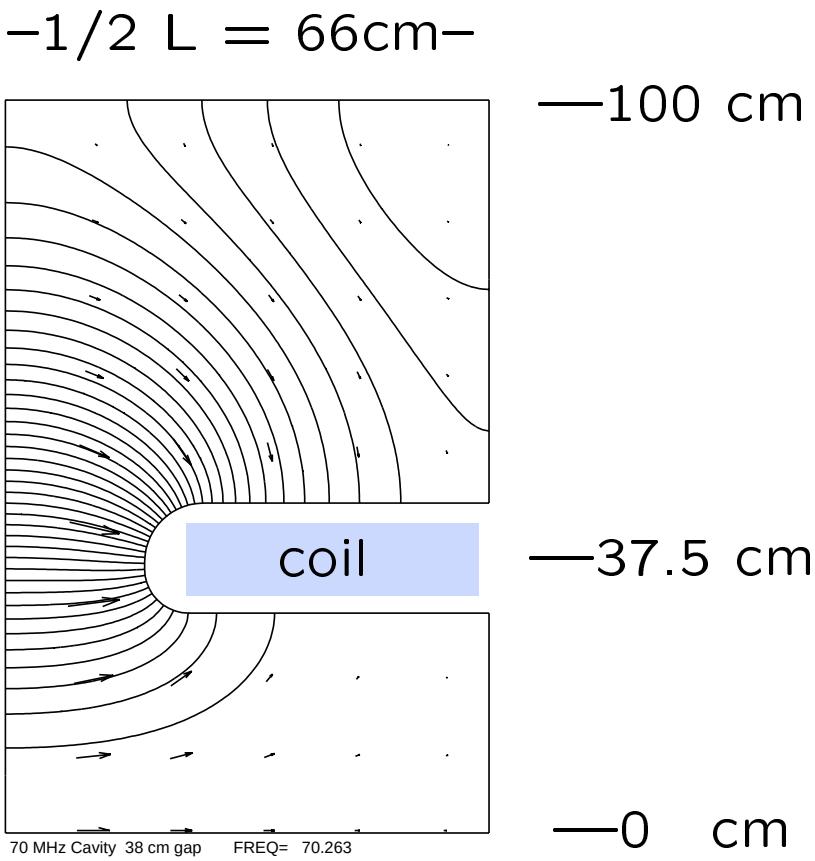
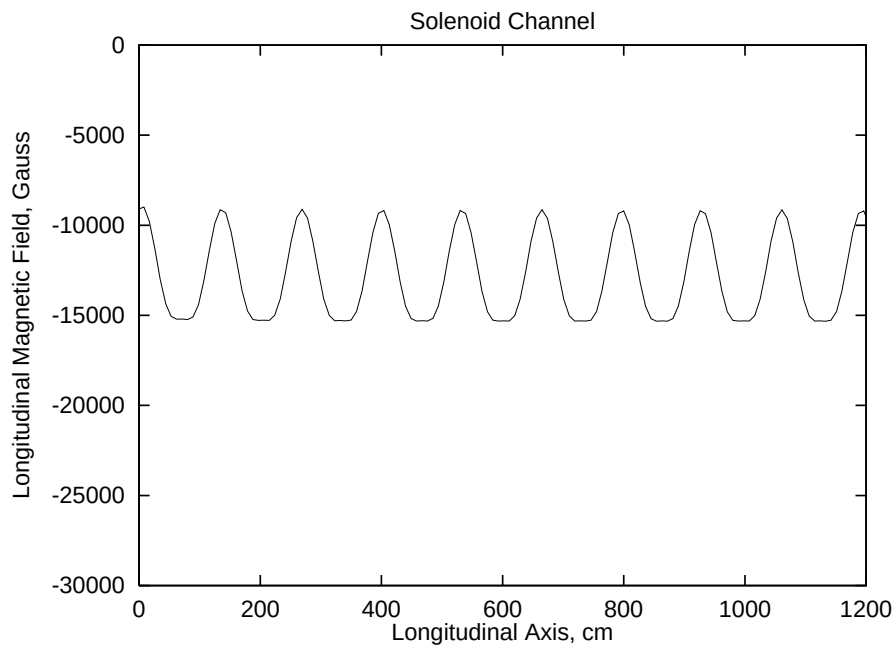
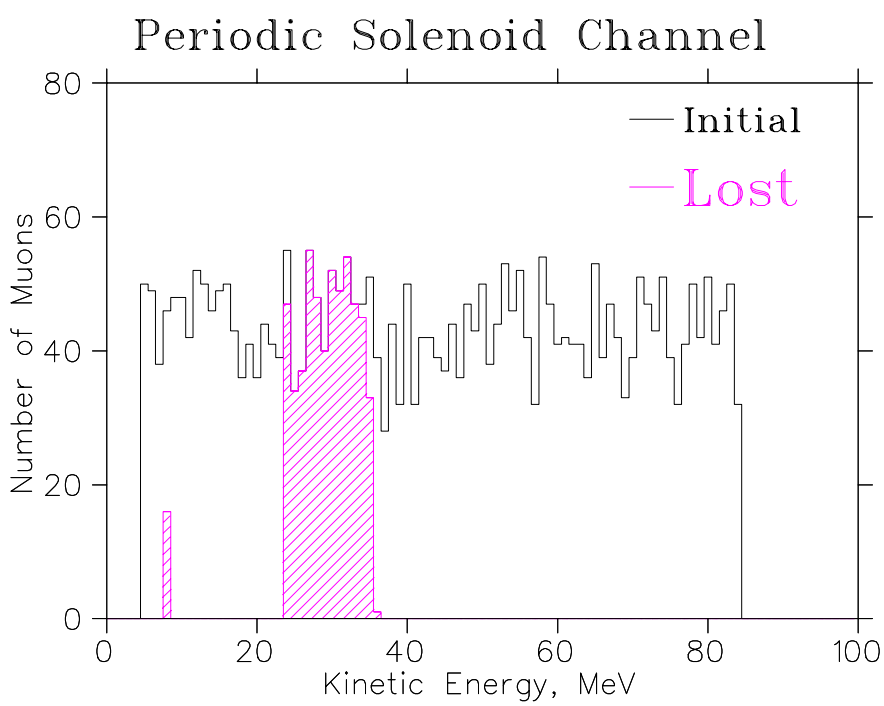
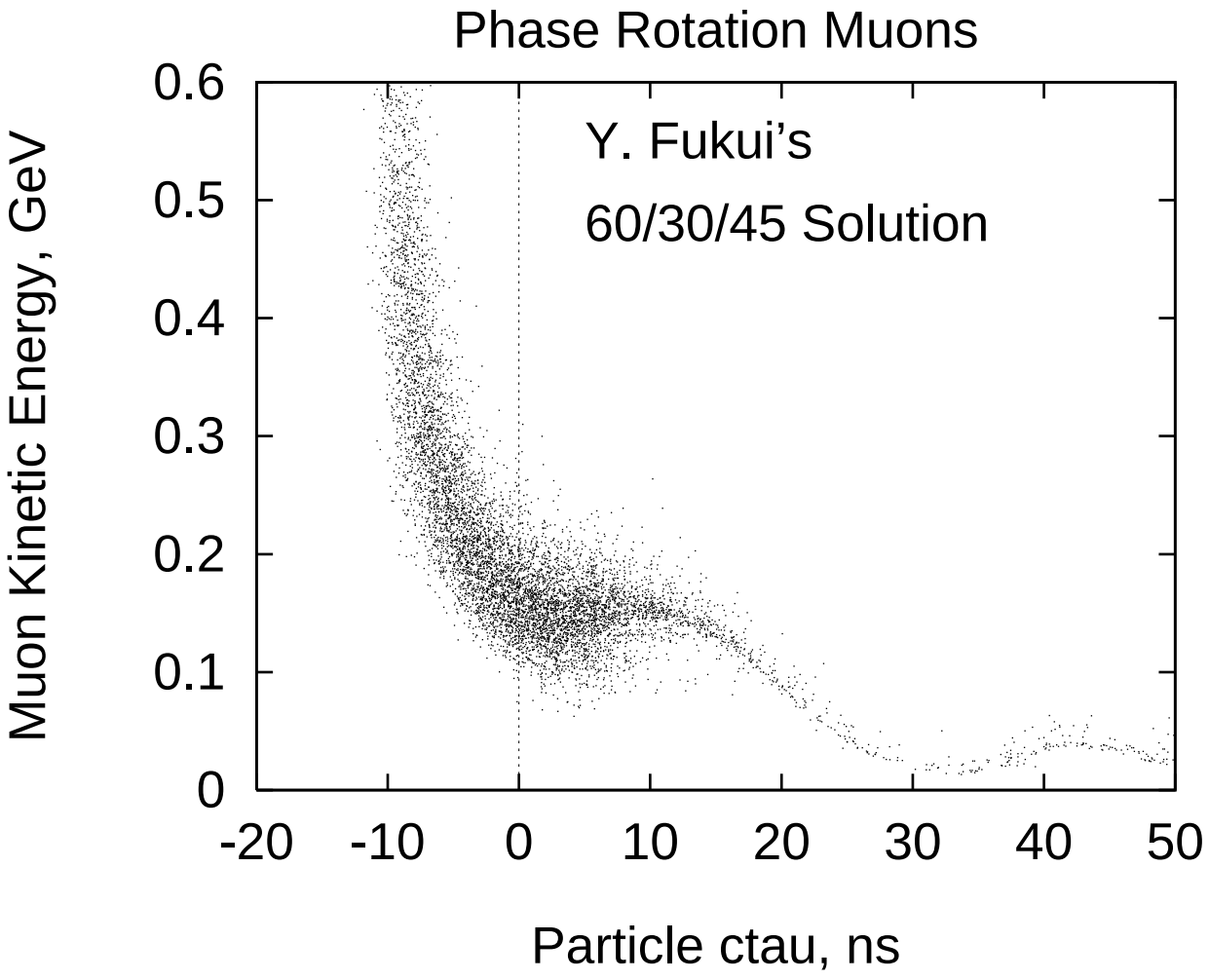
Re-entrant 70 MHz rf cavity with SC coil

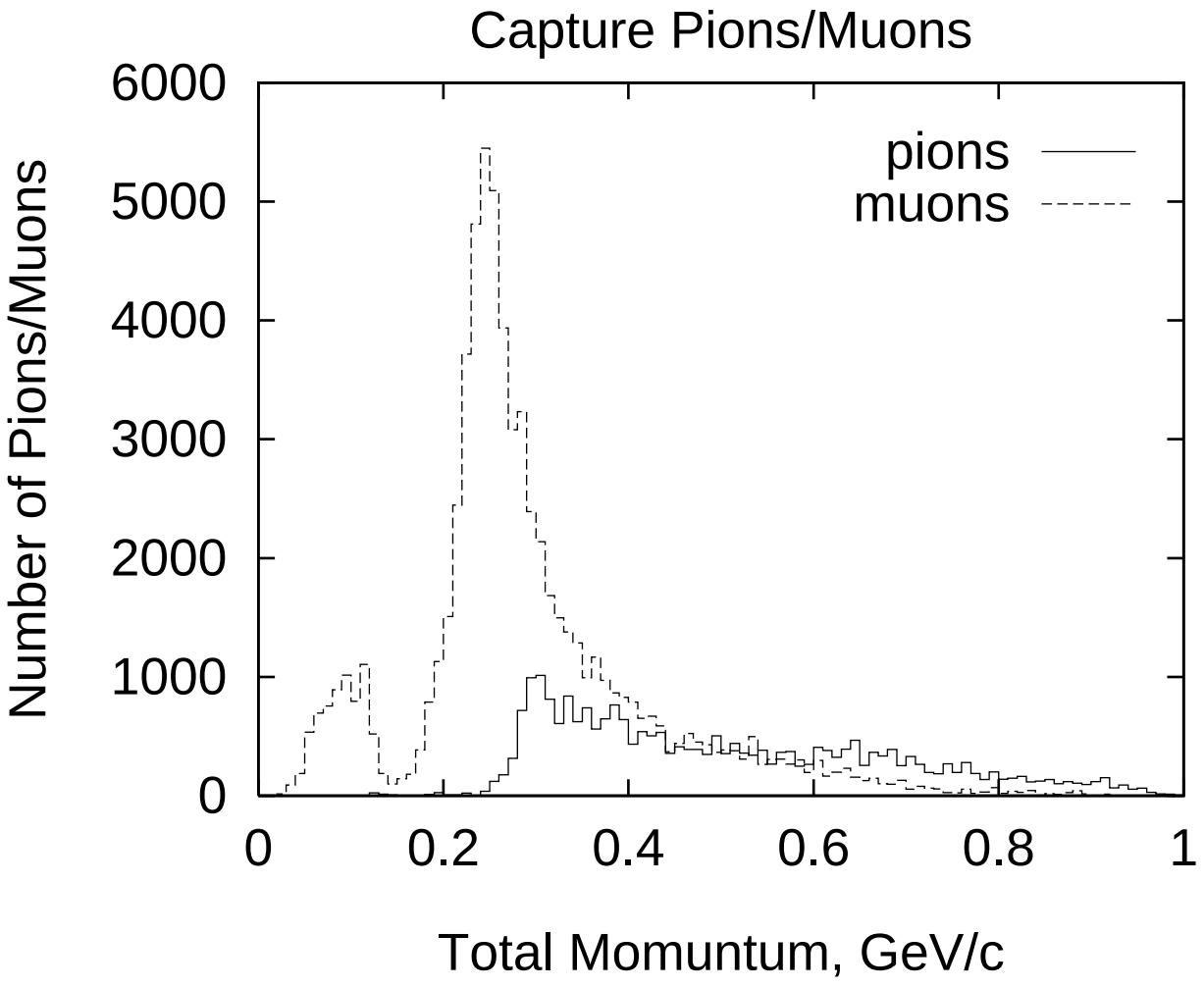


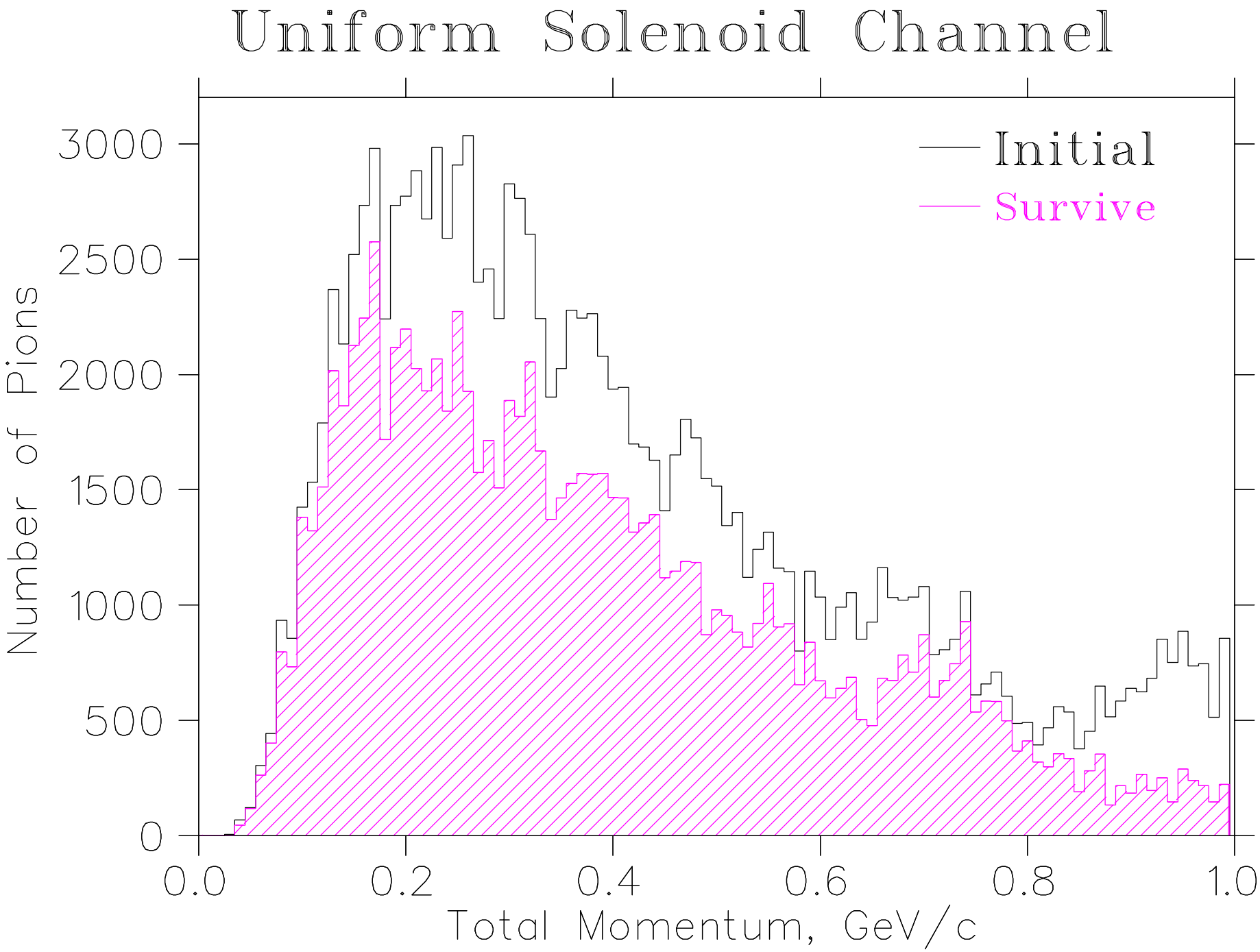
B_z = 1 - 1.5 T ; λ = 132 cm

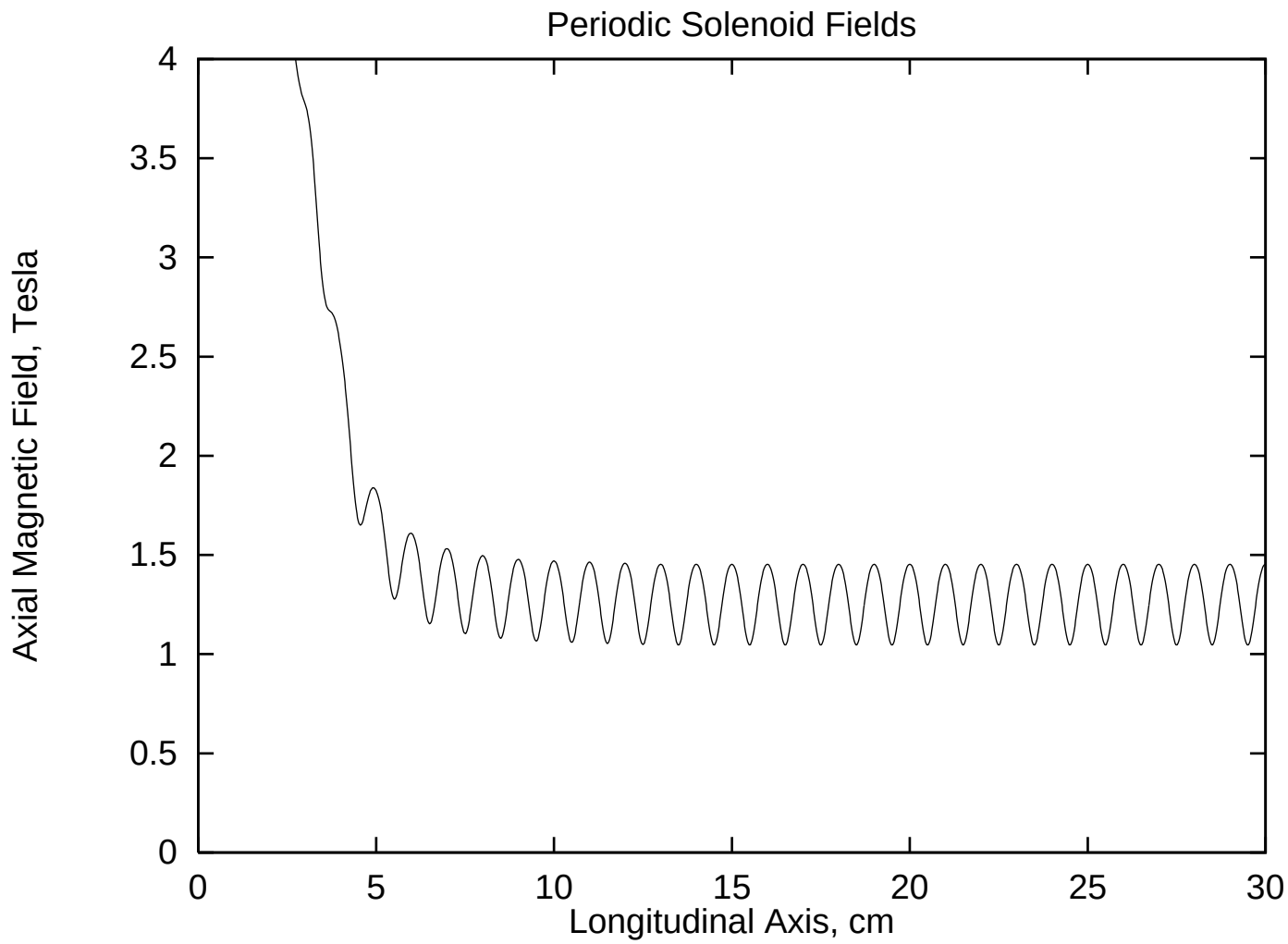


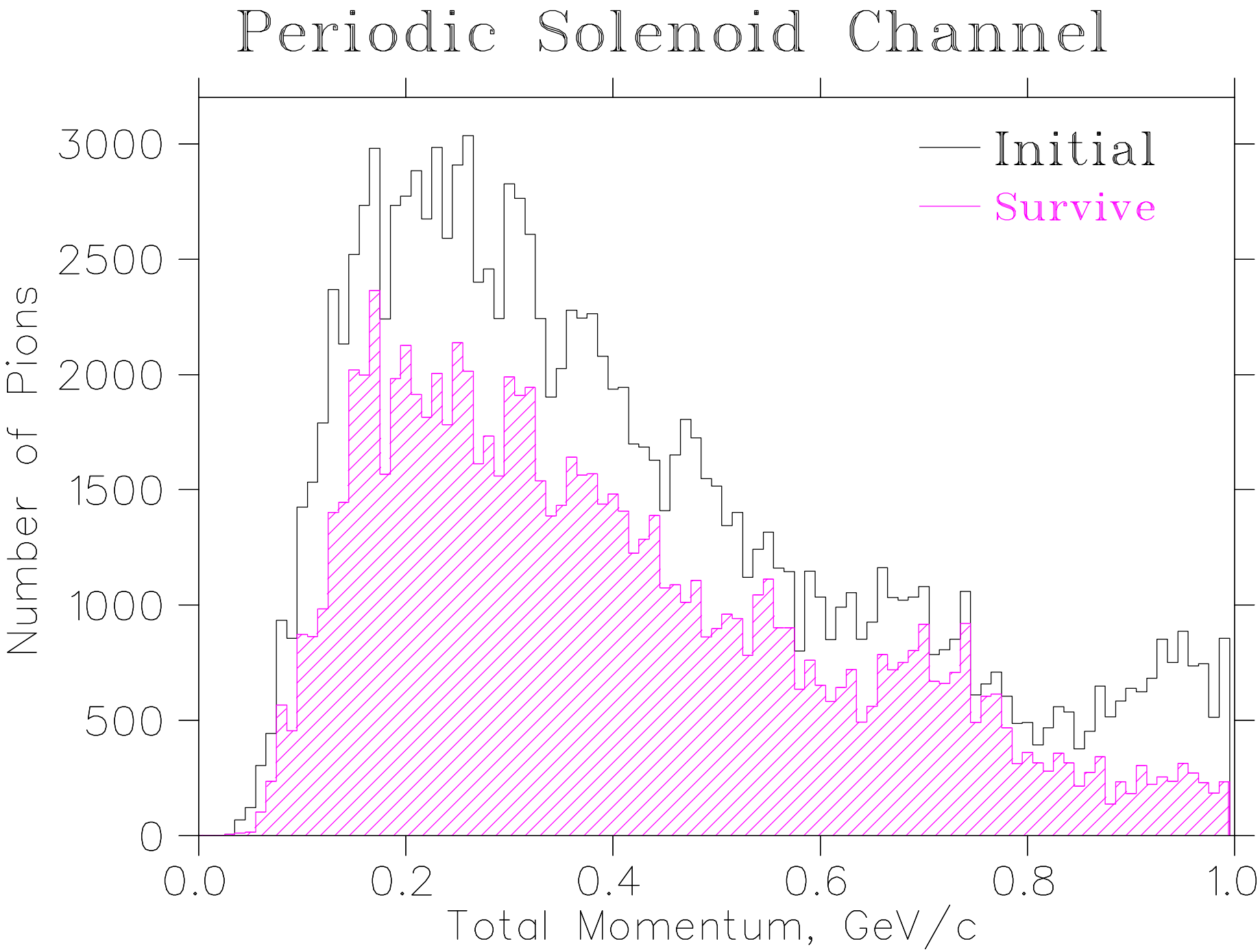


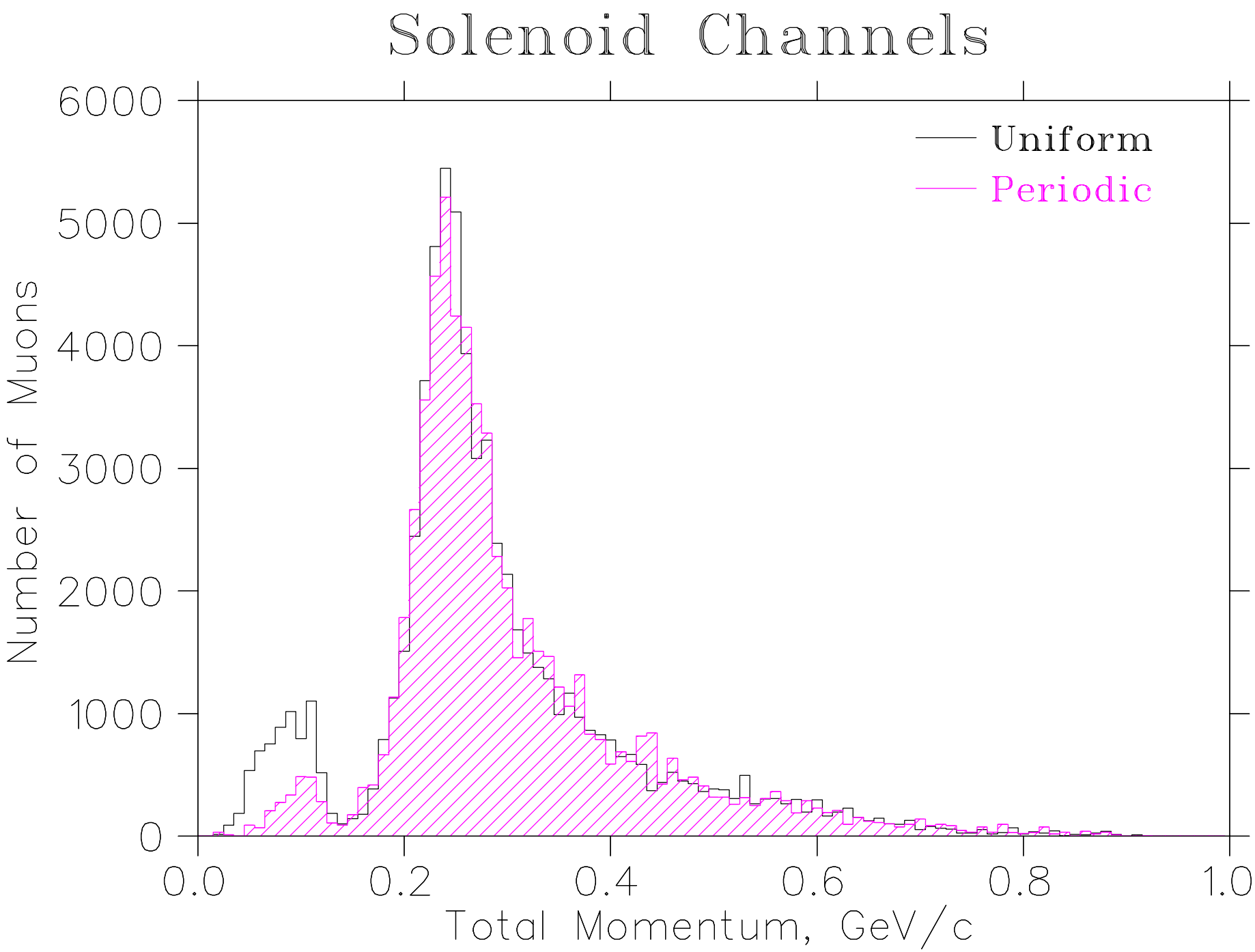

Phase Rotation Muons
Y. Fukui's
60/30/45 Solution
Muon Kinetic Energy, GeV
0.6
0.5
0.4
0.3
0.2
0.1
0
-20
-10
0
10
20
30
40
50
Particle ctau, ns


Capture Pions/Muons
pions
muons
Number of Pions/Muons
6000
5000
4000
3000
2000
1000
0
0
0.2
0.4
0.6
0.8
1
Total Momuntum, GeV/c


Uniform Solenoid Channel
Initial
Survive
Number of Pions
0
500
1000
1500
2000
2500
3000
0.0
0.2
0.4
0.6
0.8
1.0
Total Momentum, GeV/c


Periodic Solenoid Fields
Axial Magnetic Field, Tesla
Longitudinal Axis, cm
0
0.5
1
1.5
2
2.5
3
3.5
4
0
5
10
15
20
25
30


Periodic Solenoid Channel
Initial
Survive
Number of Pions
0
500
1000
1500
2000
2500
3000
0.0
0.2
0.4
0.6
0.8
1.0
Total Momentum, GeV/c


Solenoid Channels
Uniform
Periodic
Number of Muons
Total Momentum, GeV/c
0
1000
2000
3000
4000
5000
6000
0.0
0.2
0.4
0.6
0.8
1.0