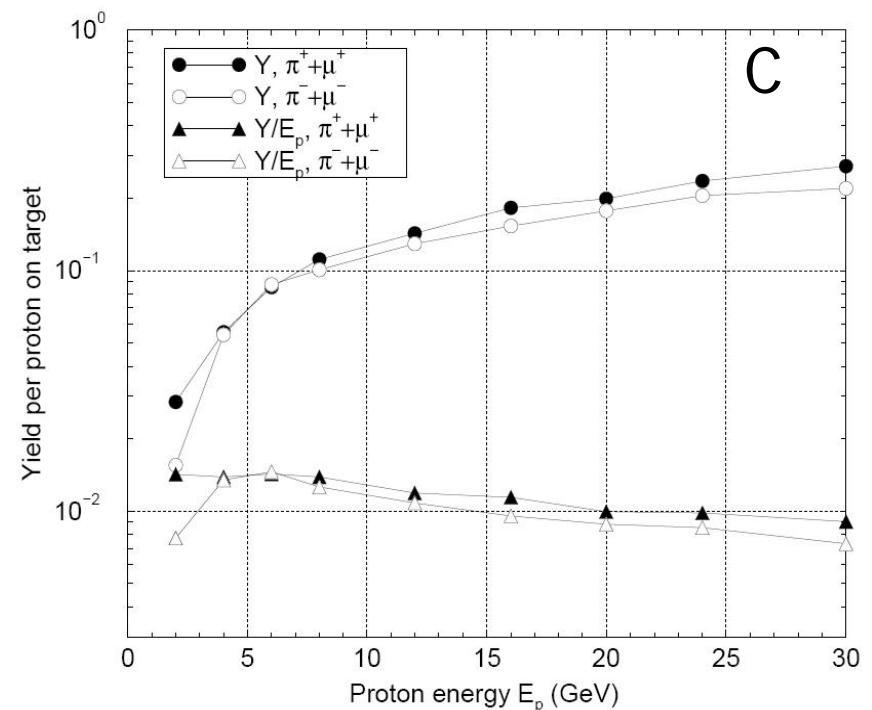
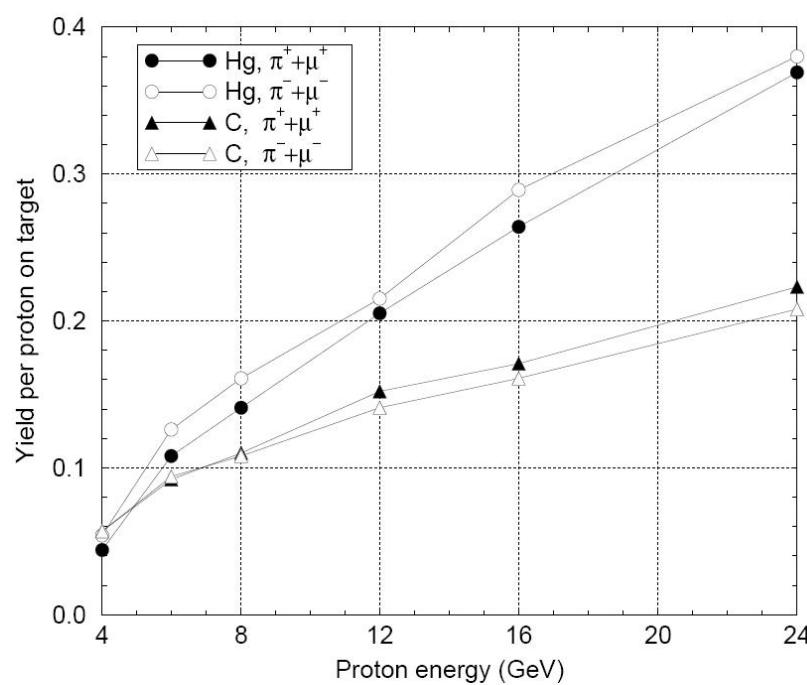
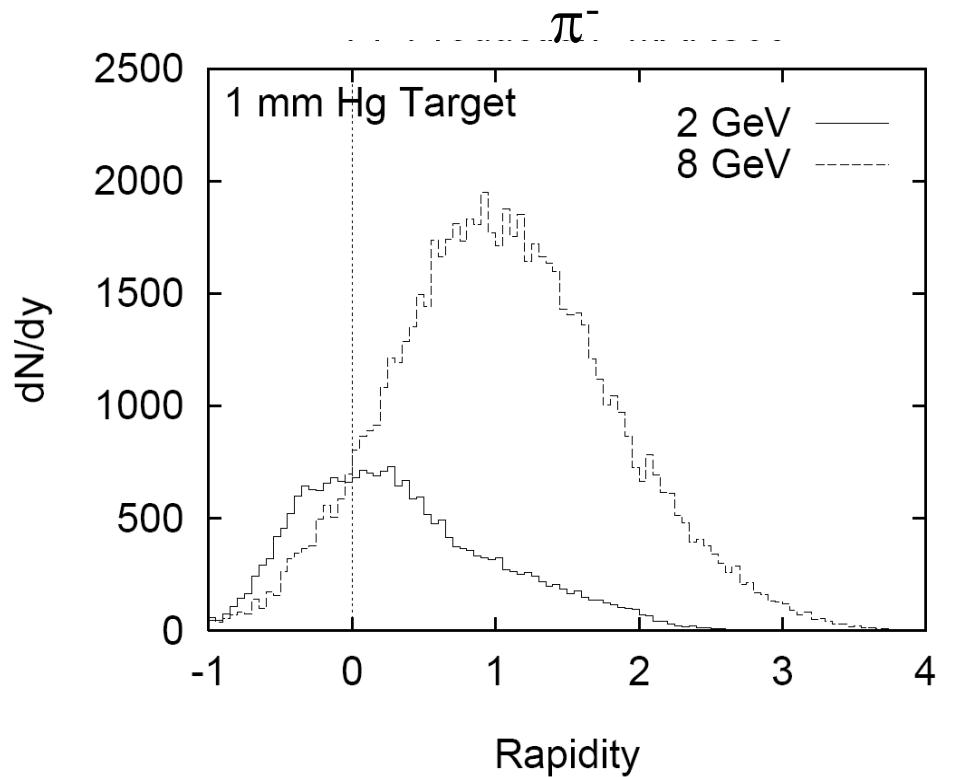
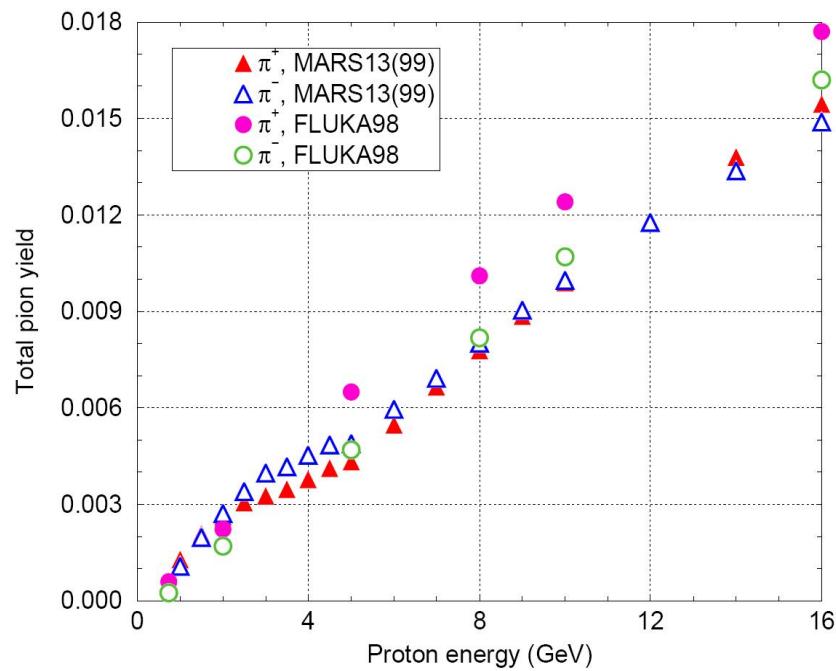


Neutrino Factory Optimization

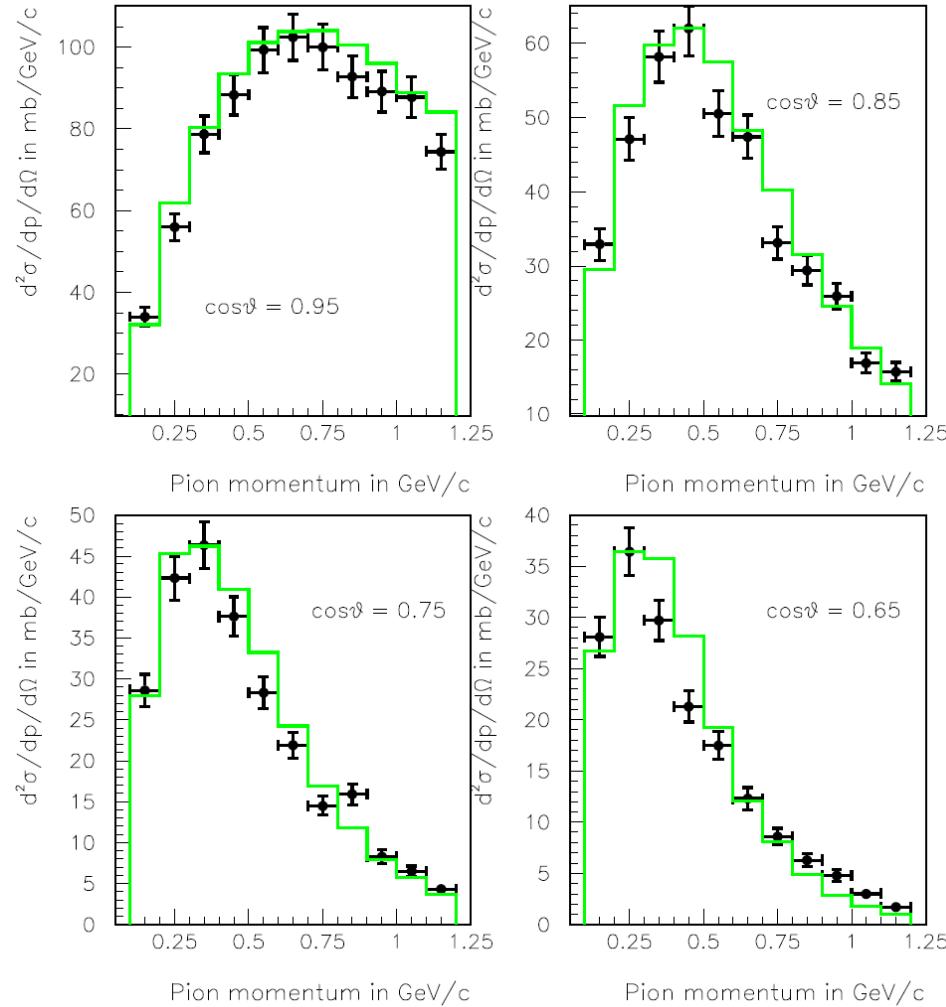
$30 < T < 230$ MeV pions collected in channel



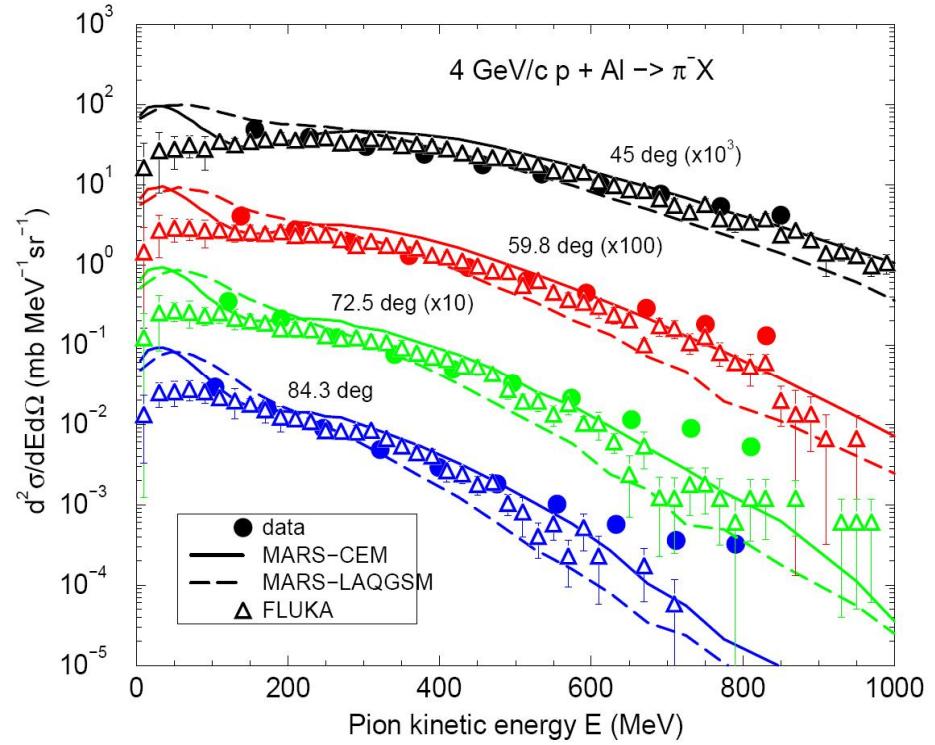
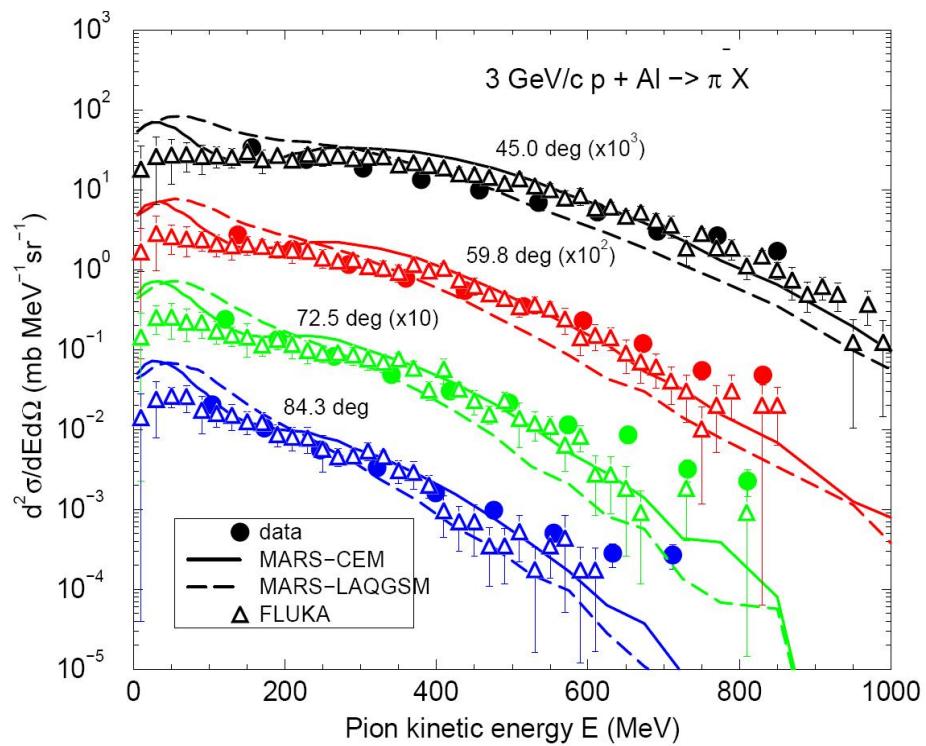
0.7 to 16 GeV Protons on 1-mm Mercury Target



12.3 GeV/c p+Be $\rightarrow \pi^-$ vs BNL E910



INCLUSIVE MESON PRODUCTION



MARS & Geant4 Pion Production vs HARP for Incident π^\pm

Table 2: Normalization factors data over MC for some models, incident π^+ .

Feb. 12, 2009

Generator	Be		Ta		Be		Ta		Be		Ta	
	3 GeV/c	3 GeV/c	3 GeV/c	3 GeV/c	5 GeV/c	5 GeV/c	8 GeV/c	8 GeV/c	12 GeV/c	12 GeV/c	12 GeV/c	12 GeV/c
	π^+	π^-	π^+	π^-	π^+	π^-	π^+	π^-	π^+	π^-	π^+	π^-
Bertini	1.1	1.1	0.9	0.6	1.3	1.3	1.1	1.1	1.7	1.4	1.5	1.4
LHEP	1.3	0.6	2.8	1.0	1.5	0.8	2.5	1.1	1.3	0.8	1.0	0.5
QGSC	-	-	-	-	-	-	-	-	1.6	1.0	1.2	0.7
QGSP	-	-	-	-	-	-	-	-	1.9	1.0	1.2	0.6
FTFP	-	-	-	-	-	-	-	-	-	-	0.8	0.7
MARS	1.3	1.2	1.2	0.9	0.9	1.0	0.7	0.6	1.0	1.1	0.8	0.6
									0.8	0.6	0.8	1.0
									0.8	0.6	0.8	0.7

Table 3: Normalization factors data over MC for some models, incident π^- .

Generator	Be		Ta		Be		Ta		Be		Ta	
	3 GeV/c	3 GeV/c	3 GeV/c	3 GeV/c	5 GeV/c	5 GeV/c	8 GeV/c	8 GeV/c	12 GeV/c	12 GeV/c	12 GeV/c	12 GeV/c
	π^+	π^-	π^+	π^-	π^+	π^-	π^+	π^-	π^+	π^-	π^+	π^-
Bertini	1.0	1.1	0.5	0.6	1.2	1.4	0.9	1.2	1.6	2.1	1.4	1.9
LHEP	0.5	1.6	0.7	2.9	0.8	1.9	1.0	2.6	0.9	1.7	0.6	1.2
QGSC	-	-	-	-	-	-	-	-	1.1	1.8	0.7	1.3
QGSP	-	-	-	-	-	-	-	-	1.2	2.2	0.7	1.4
FTFP	-	-	-	-	-	-	-	-	-	-	0.7	1.1
MARS	1.1	1.2	0.7	1.0	0.9	0.9	0.6	0.6	1.2	1.2	0.7	0.9
									0.7	0.9	0.8	0.7
									0.7	0.9	0.7	0.9