Trying to understand the differences between muons yield from ICOOL code ran at BNL & CERN
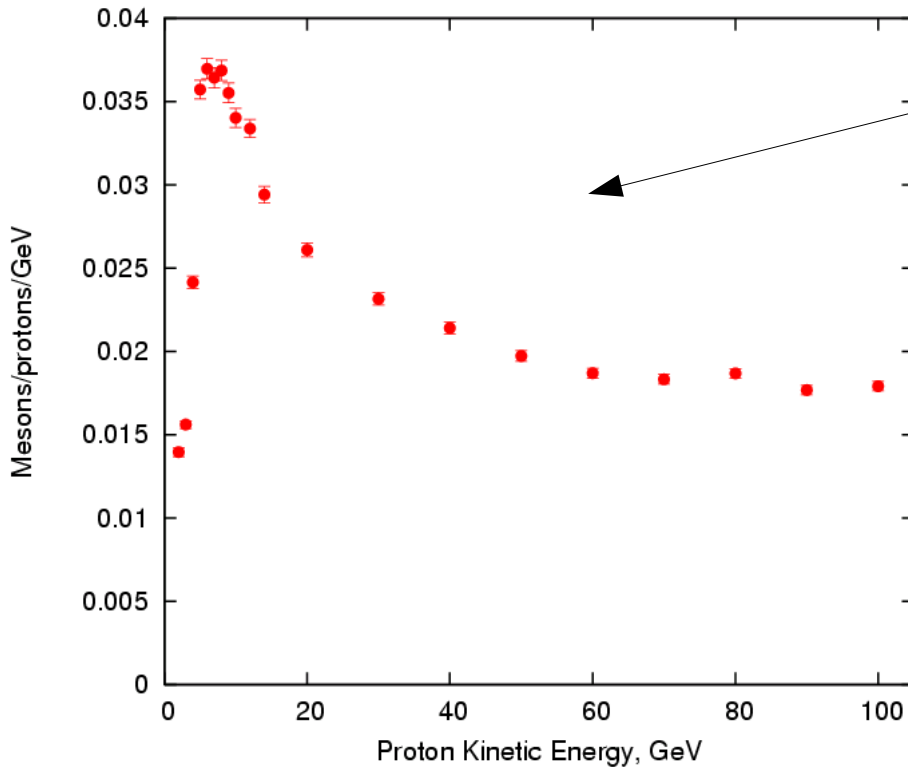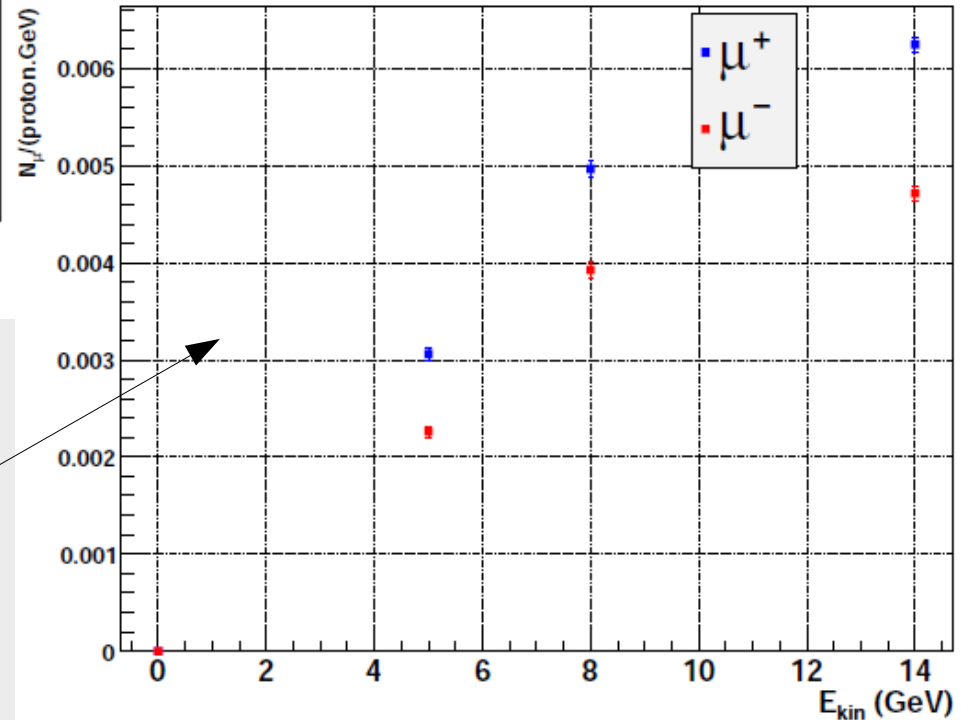
Yields as function of E_{kin}

Meson 40MeV<KE<180MeV at 50m

Number of $\mu^\pm + \pi^\pm$ at z = 50 m with 40 < E_{kin} < 180 MeV from MARS @BNL.

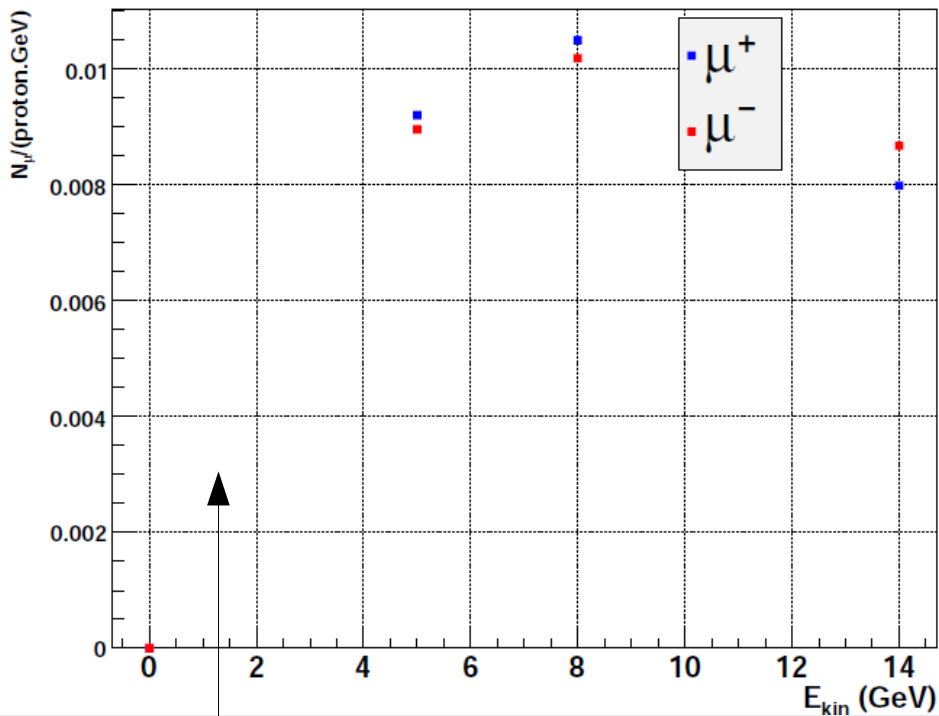Muon yield per proton and per GeV – ST2a

Number of $\mu^\pm$ at the end of the front-end from MARS+ICOOL @CERN.

July 28th 2009

Yields from ecal9f

Muon yield per proton and per GeV – ST2a

Cuts:

0.1 < p < 0.4 GeV

$A_{/\!/} = 150$ mm

$A_\perp = 30$ mm-rad.

BNL

CERN

Muon yield per proton and per GeV – ST2a

July 28th 2009
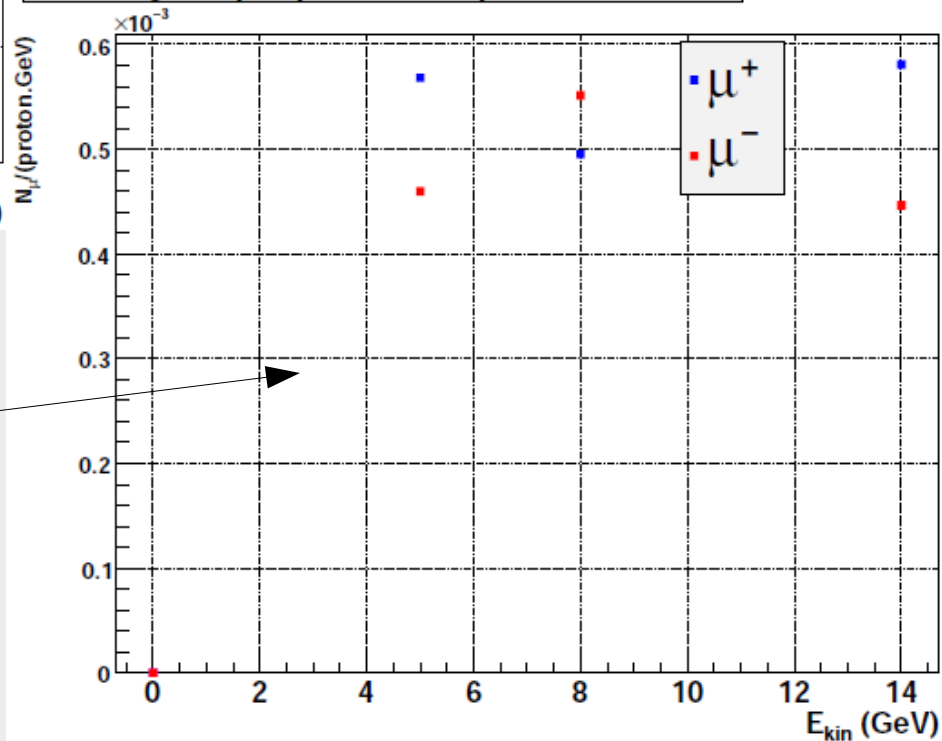
Code difference (?)

MARS:

Code version different at CERN & BNL. ~5%

ST2 field map (BNL) – ST2a field map (CERN). ~5%

ICOOL:

3.10 (CERN).

scatlev = 6 (BNL) – scatlev = 4 (CERN).

SHEET model 5 (BNL) - model 4 (CERN). ~ grid map

All particles (CERN) – only $\mu^\pm$ and $\pi^\pm$ (BNL).

Xiaoping running my beam on his deck.

I am running Xiaoping beam on my deck.