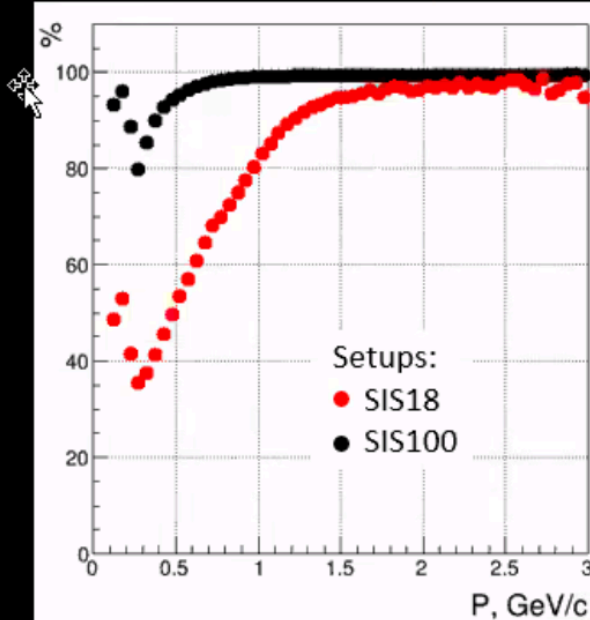


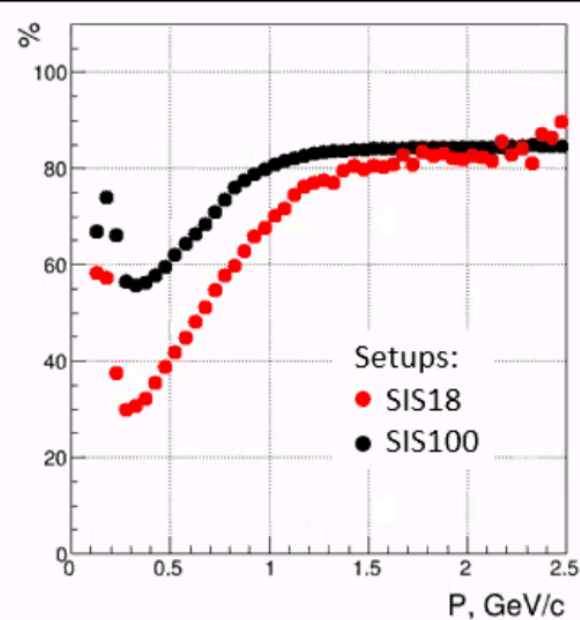
Slide from  
A. Senger

## Track reconstruction efficiency in STS

Primary tracks



Secondary tracks



# CA Track Finder Performance

UrQMD 0-10% central Au+Au events @ 1.23 AGeV, 35% magnetic field  
sis18\_hadron, z\_target = -12.5

Track type	Efficiency
All tracks	92.5
Primary high-p	96.9
Primary low-p	87.6
Secondary low-p	63.5
Clone	0.4
Ghost	0.2
True hits per reco track	97.1
Hits per MC track	4.65
Reco tracks per event	91

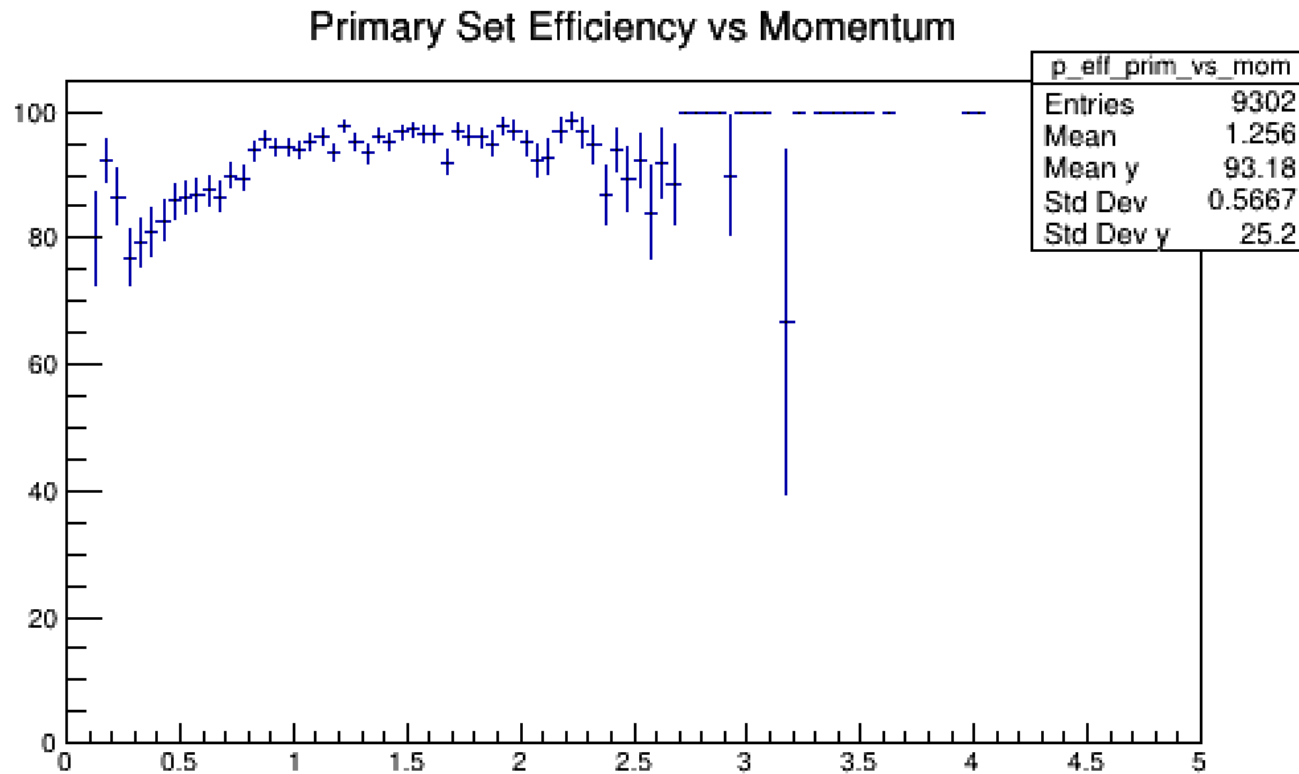
Reconstructable track — has at least 4 consecutive mc points,  $p > 0.1$  GeV/c

Clone — more than one track obtained for one simulated particle

Reconstructed track — purity  $\geq 70\%$ , Ghost — purity  $< 70\%$

# Efficiency drop for low momenta

UrQMD 0-10% central Au+Au events @ 1.23 AGeV, 35% magnetic field  
sis18\_hadron, z\_target = -12.5



Reconstructable track — has at least 4 consecutive mc points,  $p > 0.1$  GeV/c  
Reconstructed track — purity  $\geq 70\%$ , Ghost — purity  $< 70\%$

# CA Track Finder Performance

UrQMD 0-10% central Au+Au events @ 1.23 AGeV, 35% magnetic field  
sis18\_hadron, z\_target = -12.5

Track type	Original	Soft cuts
All tracks	92.5	96.6
Primary high-p	96.9	98.3
Primary low-p	87.6	95.0
Secondary low-p	63.5	82.4
Clone	0.4	0.4
Ghost	0.2	0.5
True hits per reco track	97.1	98.9
Hits per MC track	4.65	4.65
Reco tracks per event	91	95

Reconstructable track — has at least 4 consecutive mc points,  $p > 0.1$  GeV/c

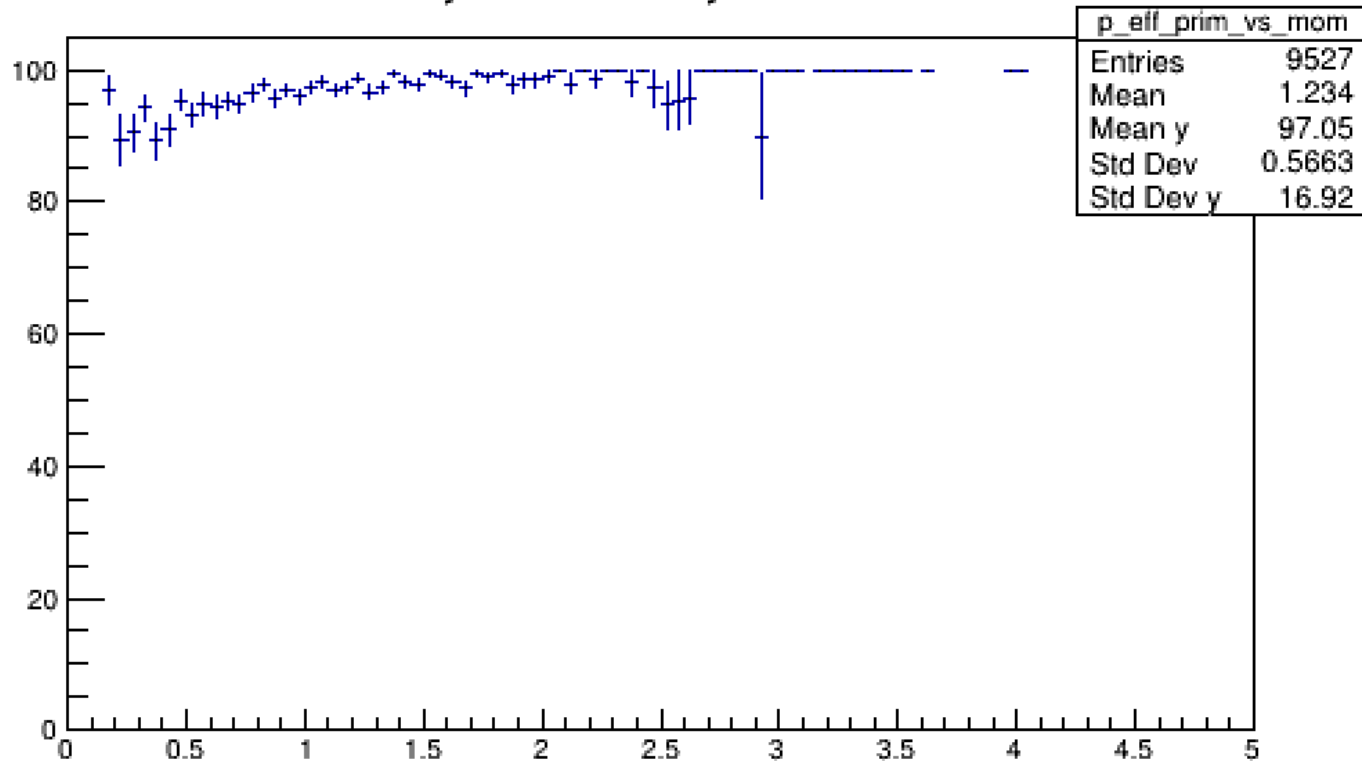
Clone — more than one track obtained for one simulated particle

Reconstructed track — purity  $\geq 70\%$ , Ghost — purity  $< 70\%$

# Soft cuts: no efficiency drop

UrQMD 0-10% central Au+Au events @ 1.23 AGeV, 35% magnetic field  
sis18\_hadron, z\_target = -12.5

Primary Set Efficiency vs Momentum



Reconstructable track — has at least 4 consecutive mc points,  $p > 0.1$  GeV/c

Reconstructed track — purity  $\geq 70\%$ , Ghost — purity  $< 70\%$

# CA Track Finder Performance

UrQMD 0-10% central Au+Au events @ 10 AGeV, 100% magnetic field  
sis100\_electron

Track type	Efficiency
All tracks	95.1
Primary high-p	99.1
Primary low-p	96.2
Secondary low-p	75.7
Clone	0.8
Ghost	3.8
True hits per reco track	85.8
Hits per MC track	9.7
Reco tracks per event	394

Reconstructable track — has at least 4 consecutive mc points,  $p > 0.1$  GeV/c

Clone — more than one track obtained for one simulated particle

Reconstructed track — purity  $\geq 70\%$ , Ghost — purity  $< 70\%$