



Settings

140 MeV/c

Particle Species	p at TKU Station 5	Proton Absorber	Diffuser setting	Q1	Q2	Q3	D1	DS	D2	Q4	Q5	Q6	Q7	Q8	Q9	RunControl Tag
	MeV/c	mm		A	A	A	A	A	A	A	A	A	A	A	A	
muons/pions	140	29	no diffuser	47.98	59.88	41.62	142.66	311.97	78.91	131.25	176.01	116.62	110.74	167.46	142.87	3-140+M2-Test1

170 MeV/c

Particle Species	p at TKU Station 5	Proton Absorber	Diffuser setting	Q1	Q2	Q3	D1	DS	D2	Q4	Q5	Q6	Q7	Q8	Q9	RunControl Tag
	MeV/c	mm		A	A	A	A	A	A	A	A	A	A	A	A	
muons/pions	170	29	no diffuser	54.12	67.56	46.97	160.8	353.33	86.55	144.68	194.03	128.6	124.87	188.89	161.24	3-170+M2-Test1

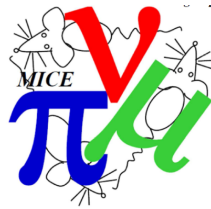
200 MeV/c

Particle Species	p at TKU Station 5	Proton Absorber	Diffuser setting	Q1	Q2	Q3	D1	DS	D2	Q4	Q5	Q6	Q7	Q8	Q9	RunControl Tag
	MeV/c	mm		A	A	A	A	A	A	A	A	A	A	A	A	
muons/pions	200	29	no diffuser	60.74	75.84	41.62	180.7	395.77	94.91	159.44	213.82	141.76	69.99	105.93	90.44	3-200+M2-Test1

240 MeV/c

Particle Species	p at TKU Station 5	Proton Absorber	Diffuser setting	Q1	Q2	Q3	D1	DS	D2	Q4	Q5	Q6	Q7	Q8	Q9	RunControl Tag
	MeV/c	mm		A	A	A	A	A	A	A	A	A	A	A	A	
muons/pions	240	29	no diffuser	70.38	87.9	61.14	210.61	459.00	110.82	187.59	251.57	166.86	235.68	356.81	304.90	3-240+M2-Test1

$\epsilon_N \sim 3$ mm rad in the TKU



Match in the tracker

- Match in the center of USCenter assuming **3T**:

P_z [MeV/c]	140	170	200	240
$\text{Th}(\beta_\perp)$ [cm]*	31.1	37.8	44.4	55.3

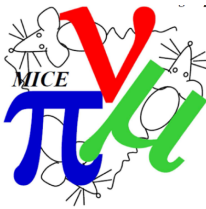
- Using Ao's cooling channel currents (for a 200 MeV/c beam):

β_\perp [cm]	66.9	34.3	25.8	35.3
α	-1.0	-0.73	-0.55	-0.04

- Playing with the quads:

β_\perp [cm]	34.5 (-50%)	46.0 (+40%)
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* Assuming constant B: $\alpha=0$, $\beta \cdot \kappa=1$



Run plan

- **Proton absorber study:** 4 beam settings x 3 PA settings x 1h each = 12h + 4 contingencies = *2 shift*
- **Diffuser study:** 1 beam setting (200MeV/c) x (4 iris setting + 1 empty) x 2h each = 10h + 6 contingencies = *2 shifts*
- **Pion contamination** (for this can be used one of the diffuser study's runs assuming SSU would be on)

