

ATLAS Forward Proton Collimator Settings

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Current approach:

step	TCL4 [σ]	TCL5 [σ]	TCL6 [σ]	AFP [σ]	Duration [min.]	Comments
1	15	15	open	open	30	Standard
2	15	35	20	open	30	TCL6 in
3	15	35	20	20	remainder of fill	AFP in

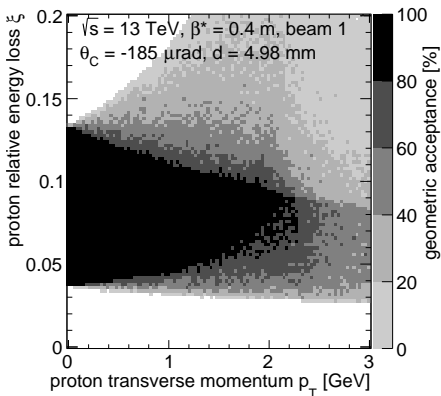
Proposed change:

step	TCL4 [σ]	TCL5 [σ]	TCL6 [σ]	AFP [σ]	Duration [min.]	Comments
1	15	15	open	open	15	Standard
2	15	15	20	open	15	Close TCL6
3	15	15	20	20	15	Insert AFP
4	15	15	35	20	15	Open TCL6
5	15	15	35	open	15	Open AFP
6	15	35	35	open	15	Open TCL5
7	15	35	35	20	15	Close AFP

Distance:20 $\sigma_{nominal}$ +

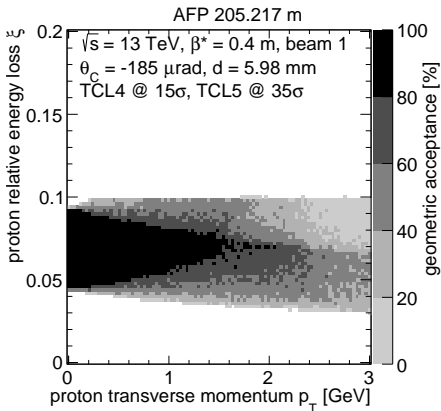
0.3 mm (thin window) +

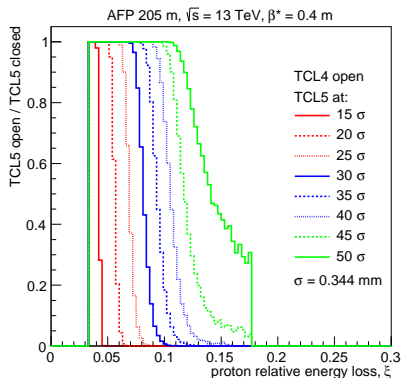
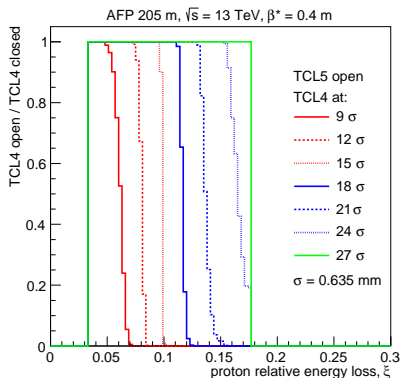
0.5 mm (dead material)

Collimators opened**Distance:**20 $\sigma_{measured}$ +

0.3 mm (thin window) +

0.2 mm (dead material)

TCL4/5/6 at 15/35/20 σ 



- TCL4 opened to 27σ (17.15 mm) does not spoil our acceptance.
- TCL4 at 15σ (9.53 mm) our maximum acceptance is limited to $\xi < 0.1$.
- TCL5 needs to be widely opened.
- If TCL4 will be at 15σ , TCL5 needs to be at $\sim 35\sigma$ not to limit the acceptance further.
- "Standard" scheme: TCL4/5/6 at 15/35/20 σ .

Proposed tests:

step	TCL4 [σ]	TCL5 [σ]	TCL6 [σ]	AFP [σ]	Duration [min.]	Comments
1	15	15	open	open	5	Standard
2	15	35	20	20	60	TCL6 & AFP in
3	21	45	20	20	60	Increase acceptance
4	27	55	20	20	60	Increase acceptance

