

Collimation simulations with different codes

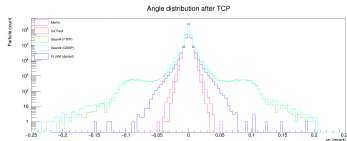
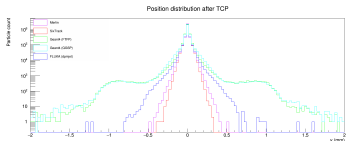
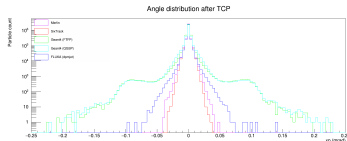
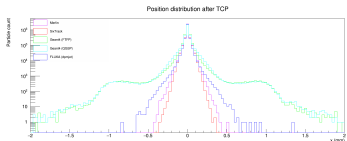
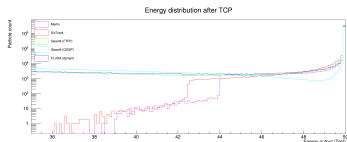
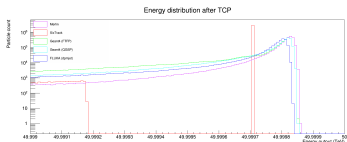
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Super quick summary

- Have added the collimation physics from Merlin into SixTrack.
- Have linked SixTrack to geant4 and can now use geant4 for collimation.
- Run with K2 and Merlin physics, geant4 QGSP and FTFP, and FLUKA coupling with DPMJET.
- All loss maps are run with the current lattice and the same configuration.
- Using a standard horizontal betatron halo set up for now.
- 12.8m protons.

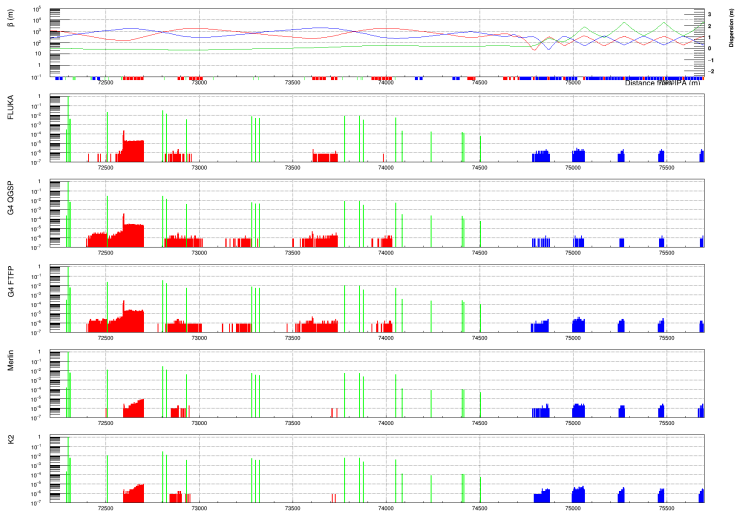
Single jaw + 9.7m drift



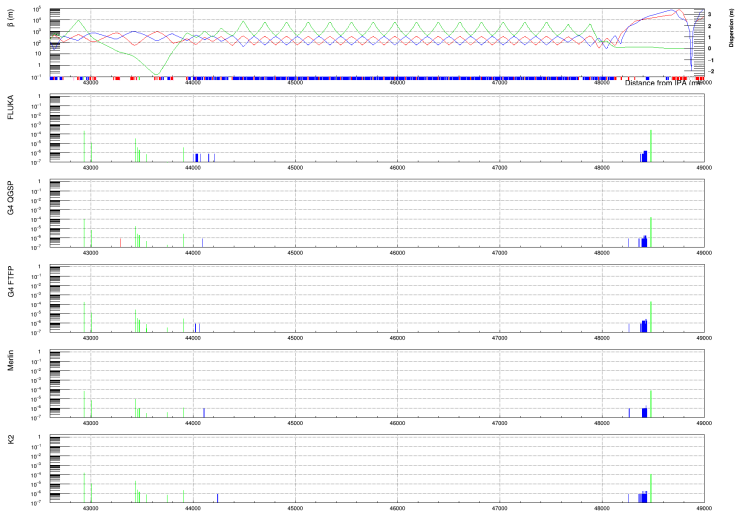
Full ring

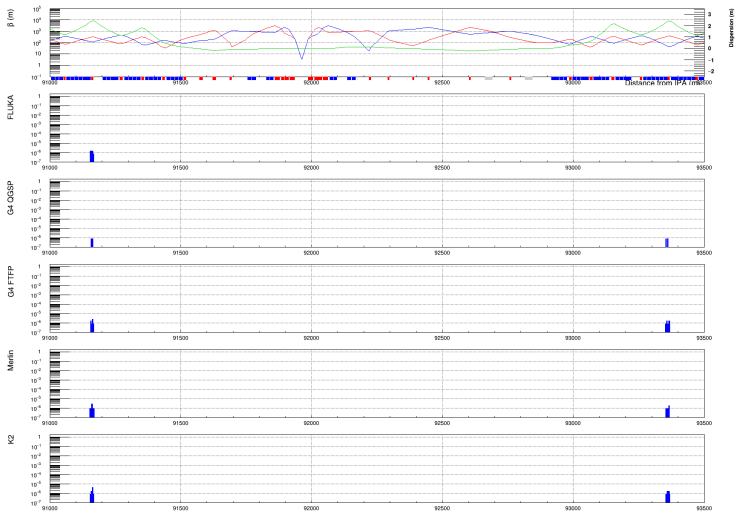


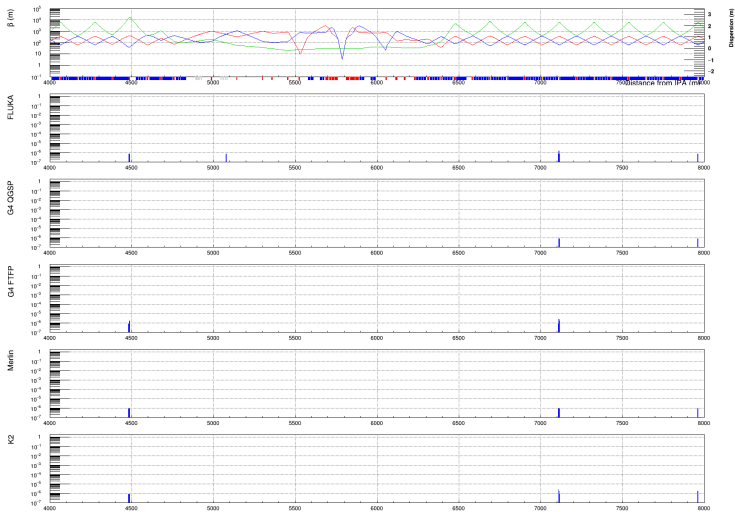
Betatron collimation



Energy collimation + IPG







Loss ratio vs K2

Region	Merlin	FLUKA	G4 FTFP	G4 QGSP
β TCP	1.001	1.011	0.9213	0.9394
β TCSG	1	1.267	1.447	1.318
β TCLA	0.921	1.497	2.367	1.91
β DS1	0.5086	0.5692	0.6822	0.06647
β DS2	0.4388	0.4465	0.5185	0.0321
β DS3	0.408	0.429	0.5093	0.02711
β DS4	0.4075	0.4466	0.4729	0.08615
δ TCP	0.4529	1.388	1.123	0.6897
δ TCSG	0.4913	1.36	1.236	0.7881
δ TCLA	0.5064	1.3	1.215	0.9174
Total	1	1.047	0.993	0.9928

SixTrack run time

