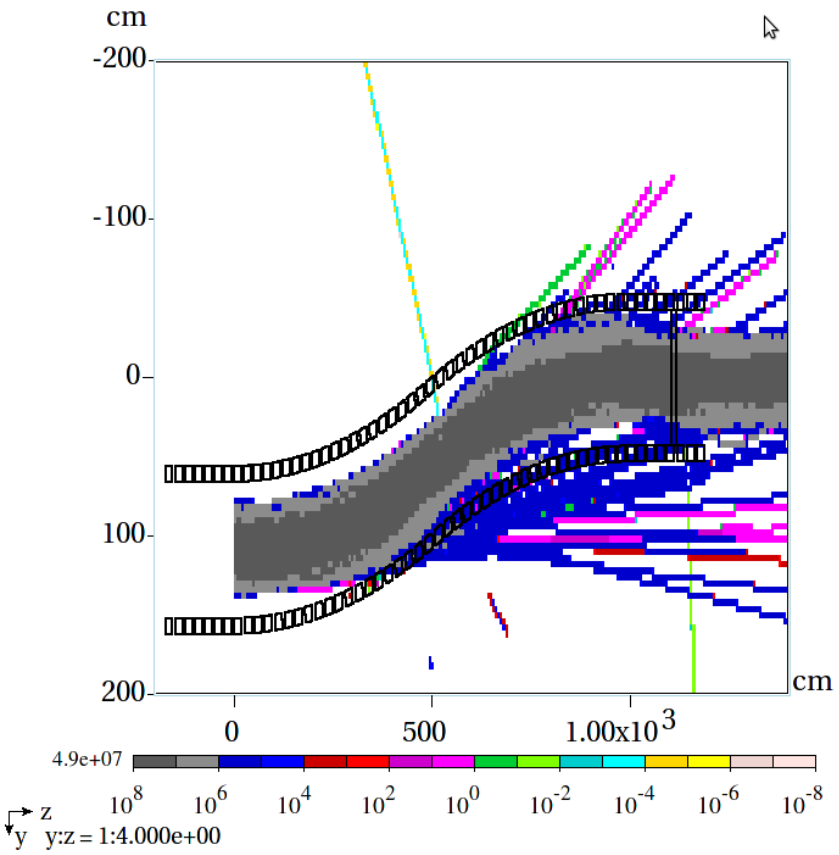
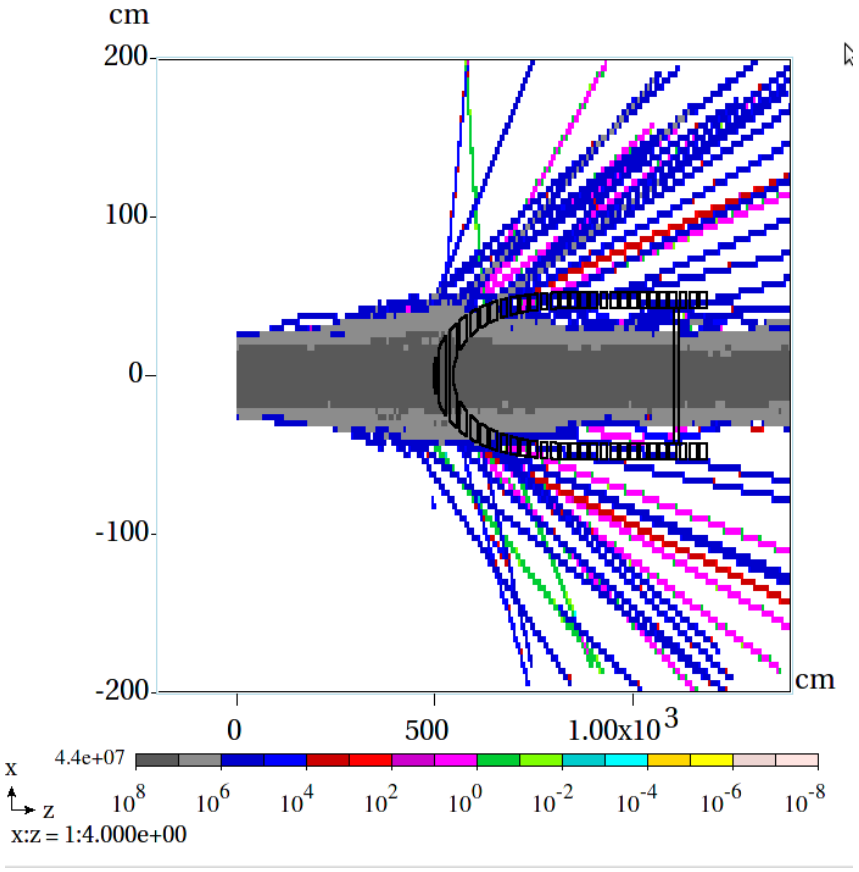
Chicane in MARS

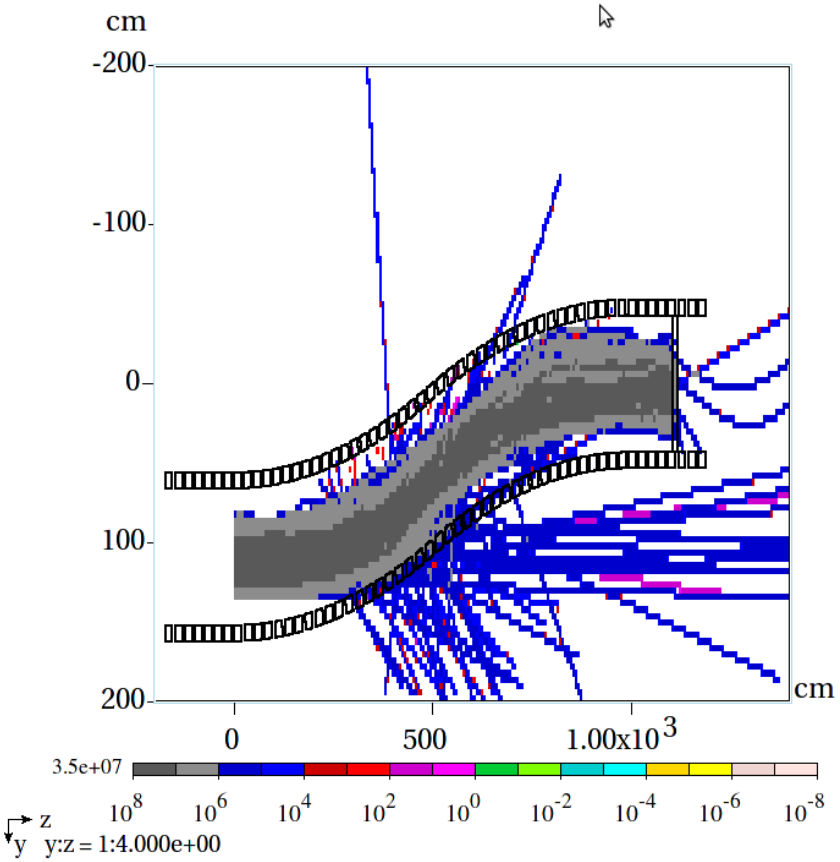
- There is no field mismatch anymore on the upstream end of the chicane.
- G4beamline use is reduced to obtaining a field map of the chicane.
- Particle distributions are generated entirely in MARS (kudos to Nicholas), simulation is carried out in two steps (target/capture + chicane).
- Chicane can be moved upstream/downstream easily by using different initial distributions and collecting the downstream data accordingly.
- Histograms are fixed, no need to move the chicane away from 0 in the transverse direction.
- Proton absorber material/length can be changed easily.
- Chicane bend angle can be changed but it is quite a procedure: produce a field map in G4beamline for each configuration + rearrange geometry in MARS (by hand or some semi-automated procedure).
- Qualitative results look promising: the muon flux does not suffer by going through the chicane + proton absorber, while the proton flux does. Quantitative results and multiple configurations to follow.
- This Thursday: workshop on MARS, chance to ask questions about the two bullets above.

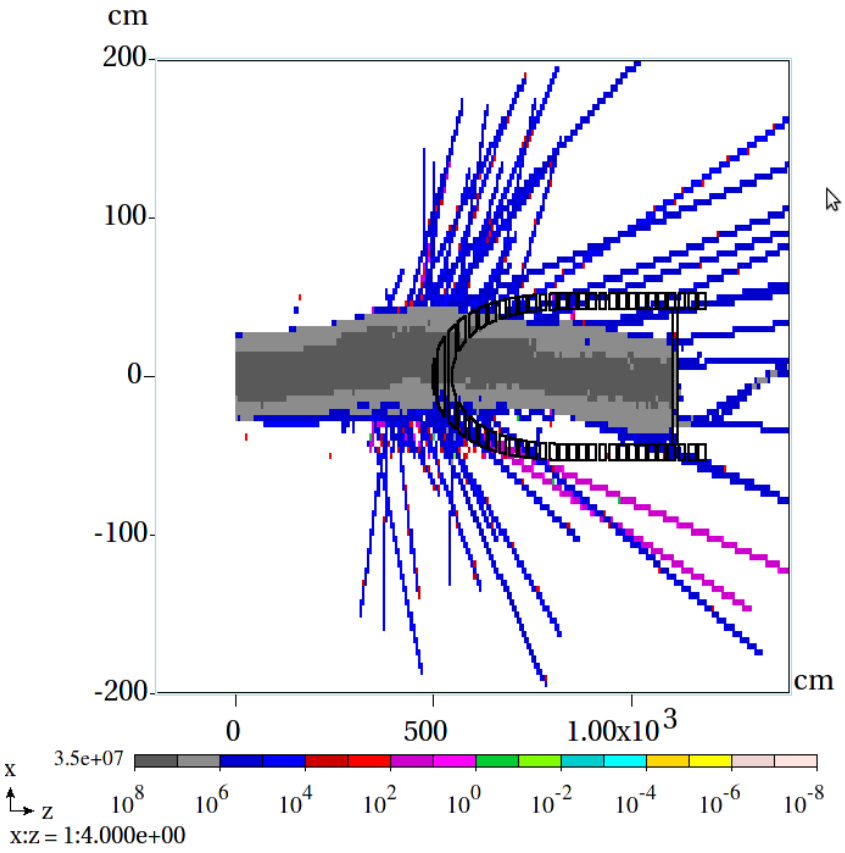
Muon flux (top/side view)



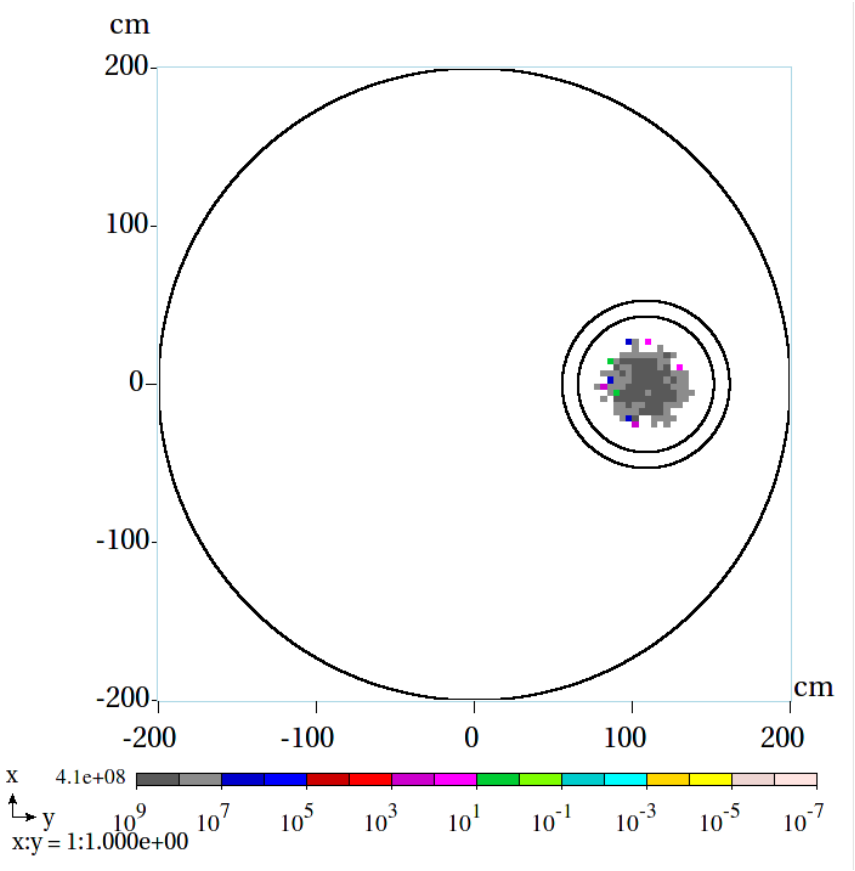


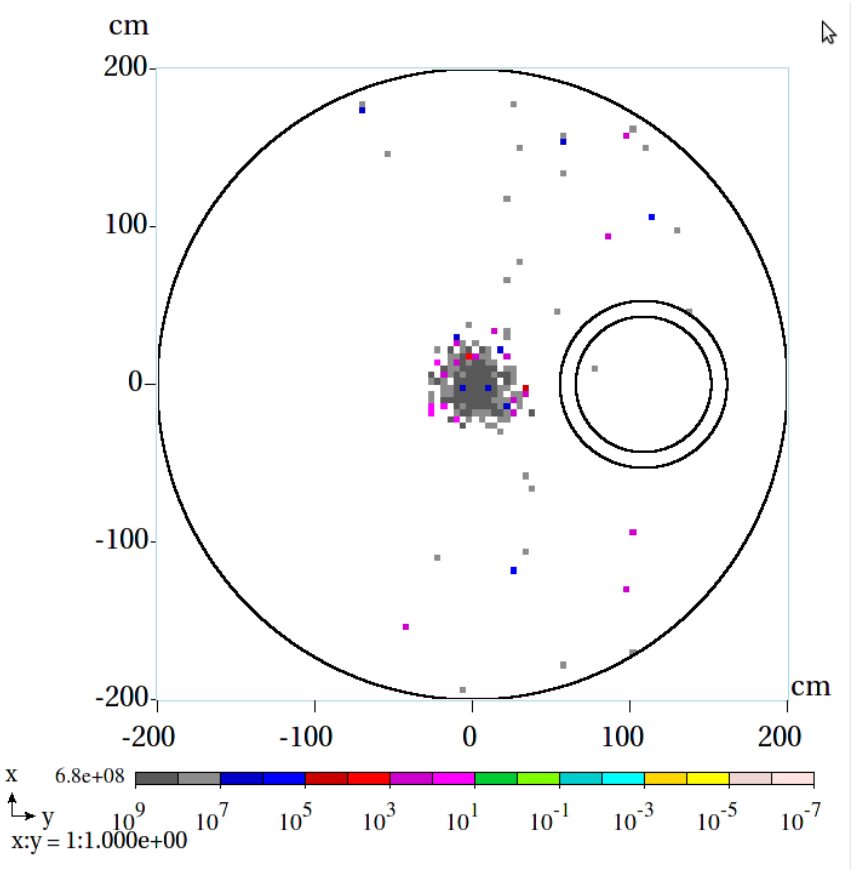
Proton flux (top/side view)



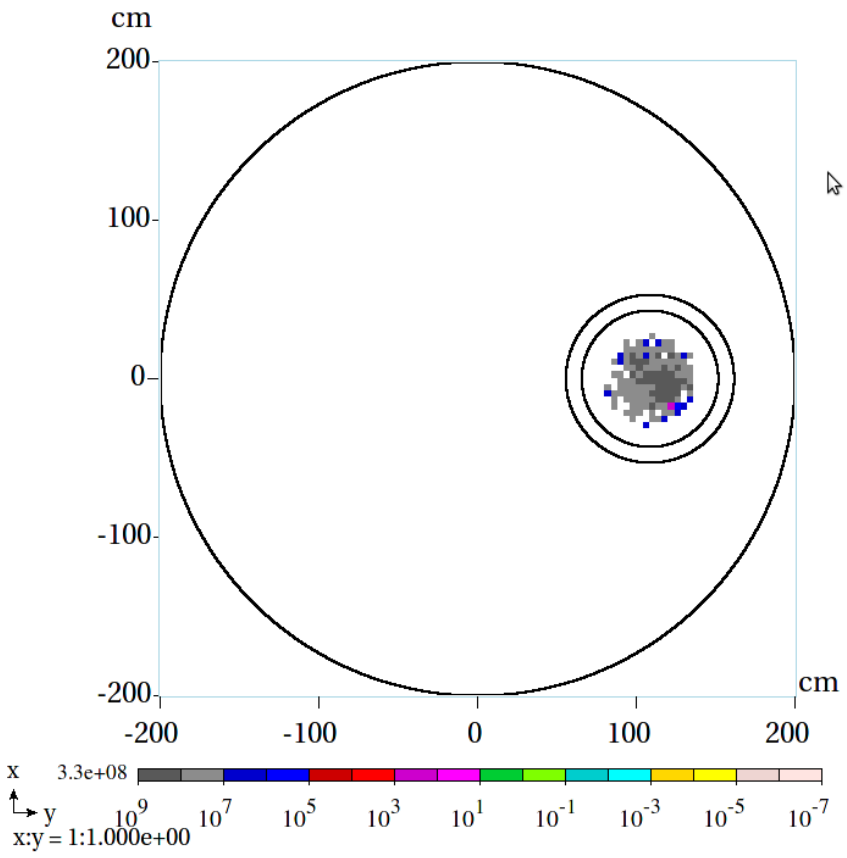


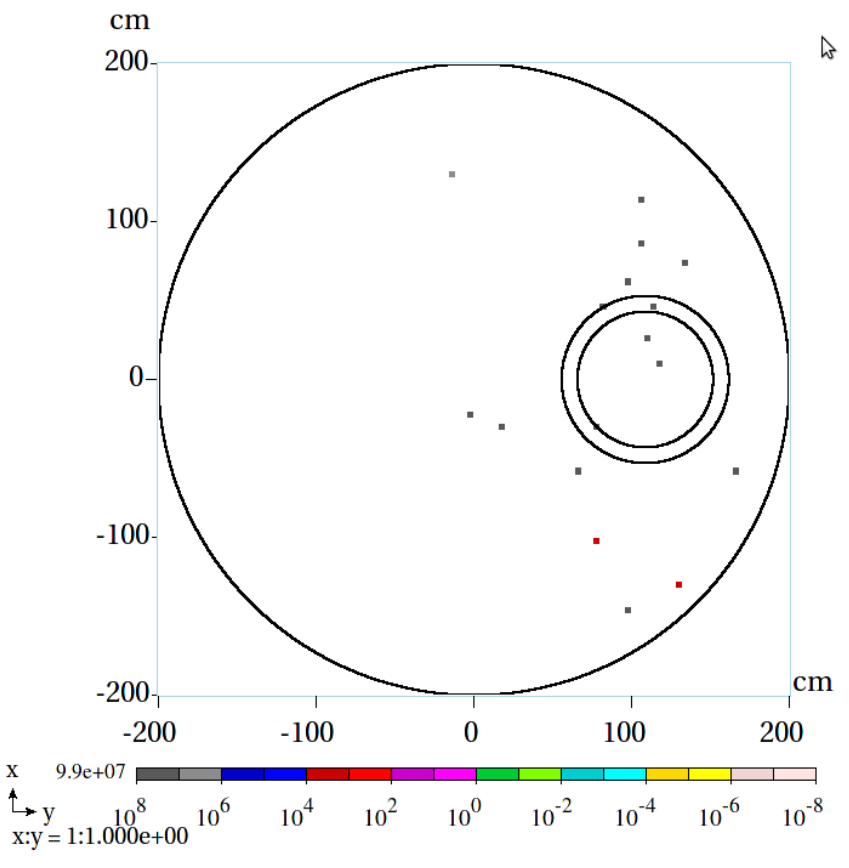
Muon flux (us/ds of the chicane)



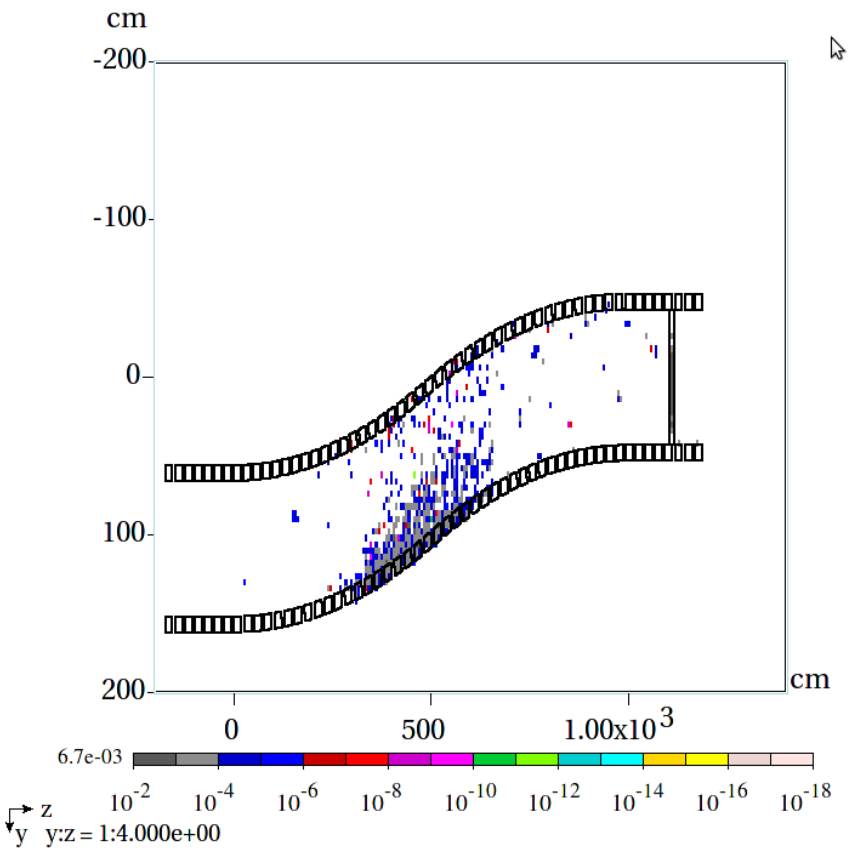


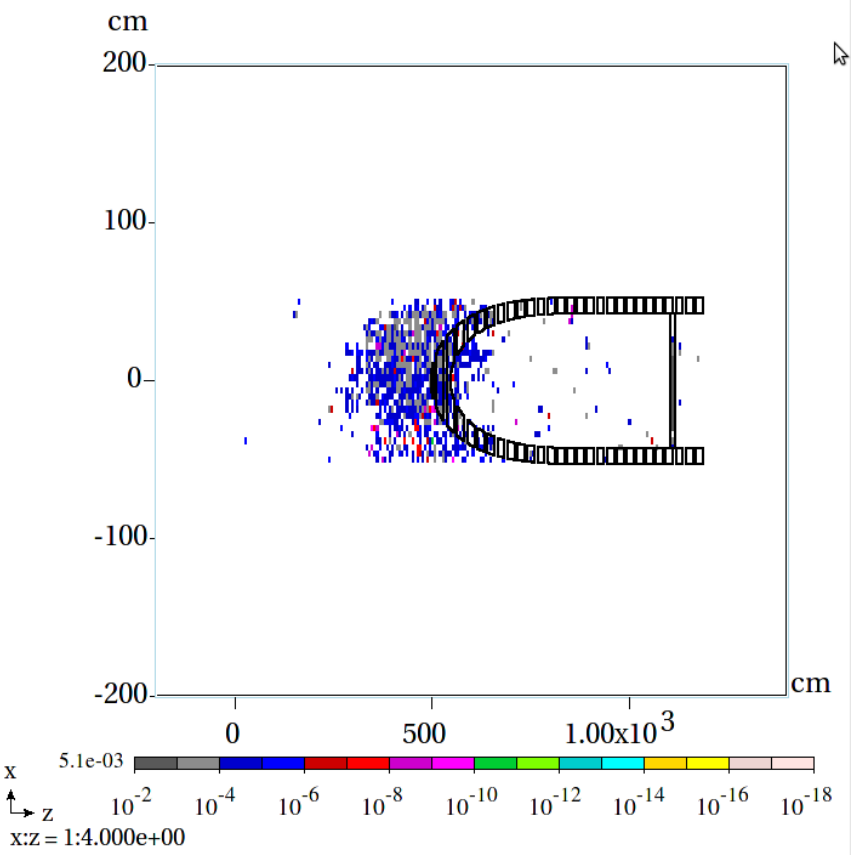
Proton flux (us/ds of the chicane)





Proton power density (top/side view)





Muon power density (top/side view)