Collimation with Ions – Collaborative Study with RHIC

RHIC has problems with ion fragments quenching magnets after the collimators.

Goal: Compare experimental observations with predictions.
Help RHIC and make sure our predictions for LHC can be trusted.

Involved persons:

CERN   BNL

Ralph Assmann   Angelika Drees
Alfredo Ferrari   Wolfram Fischer
Verena Kain   Ray Fuller
Peter Sievers
Vasilis Vlachoudis

Work involved:

1) Data on location and magnitude of losses is available. Angelika, Ray, and Wolfram will provide details on input:

particle type, energy, emittance, total beam population, Twiss functions at collimator, collimator setting in sigma, collimator material, collimator length, quench levels, ...

and observations:

location/magnitude of losses, ...

2) We generate a beam halo (Ralph) that Alfredo and Vasilis can use as input for the ion version of FLUKA to scatter the ion halo in the one jaw they have at RHIC (Cu).
The output coordinates could be provided for all particles.

3) We (Verena, Wolfram, Ralph, Angelika?) can track these particles on through the RHIC lattice and see whether the measured losses can be reproduced.