

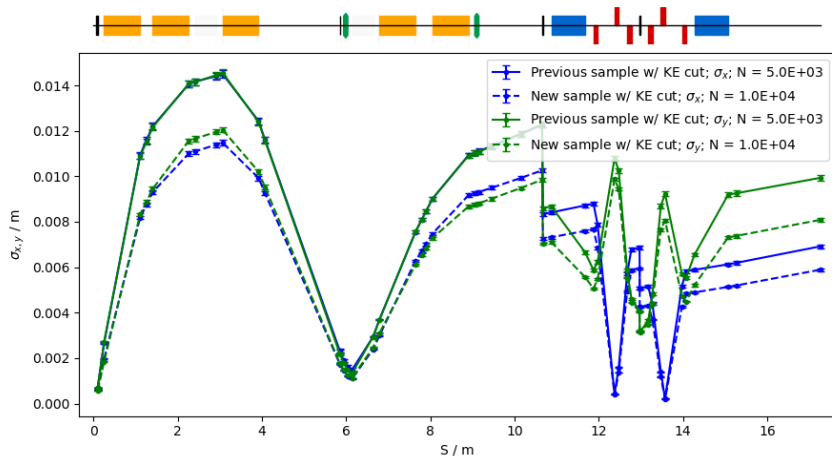
LhARA: Meeting

Hin Tung Lau

November 5, 2020

Change of Sampling Simulation

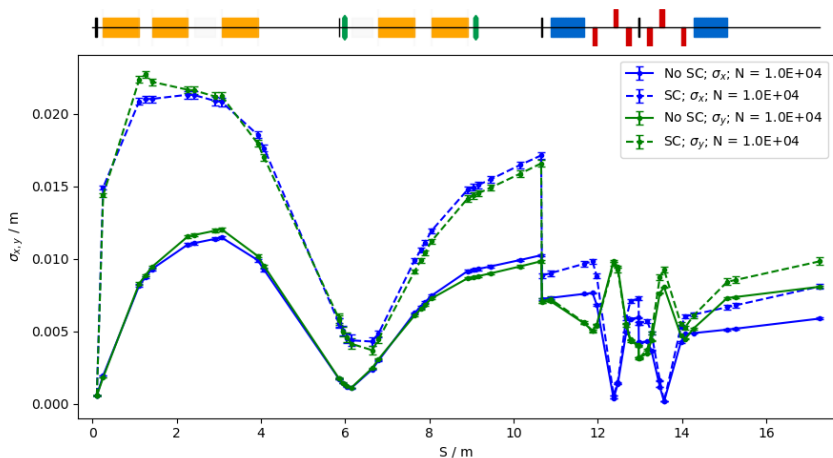
Sampled from SMILEI simulations with 10 keV initial temperature of foil.



Overall the evolution of cut beams are similar.

Adding Space Charge

GPT simulations for 5cm of nozzle over full energy spectrum to introduce space charge, then BDSIM tracked through beamline.



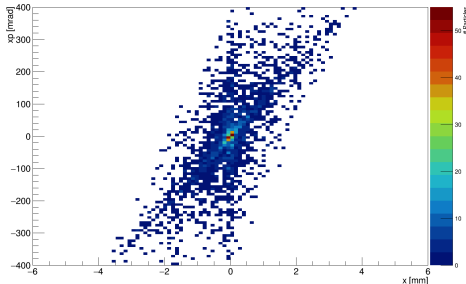
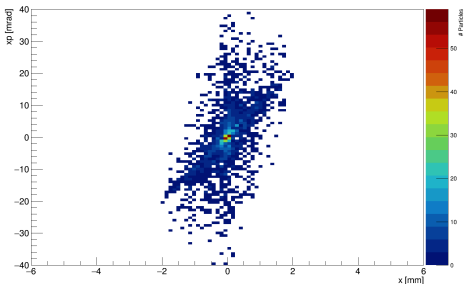
x-p phase space comparison of SC effects

No SC

SC

Cyl2pi: x-xp out of Nozzle: $14 < KE < 16$ [MeV]

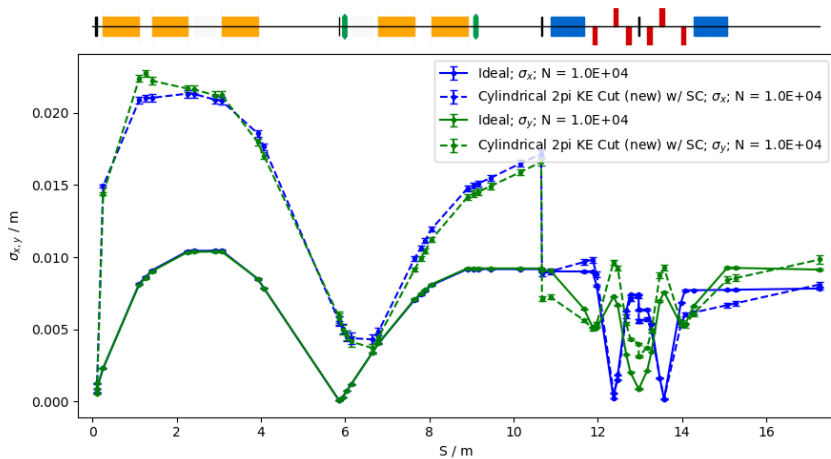
Cyl2pi 10keVTemp: x-xp out of Nozzle: $14 < KE < 16$ [MeV]



Didn't apply the 2mm collimation on SC distribution, but the normalised momentum component quite significantly greater.

SC compared to Ideal Beam

Ideal vs New Sample



SC compared to Ideal Beam

Some adjustments to strengths of first 3 Gabor lenses.

