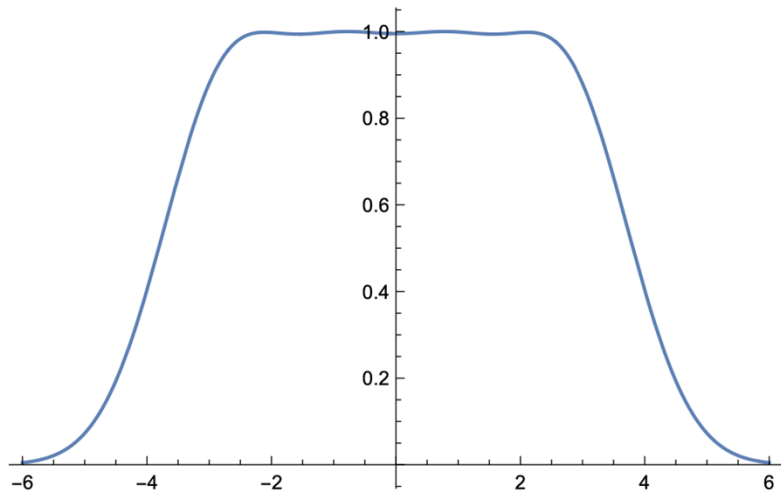


Updates on overlapping gaussians

YJ

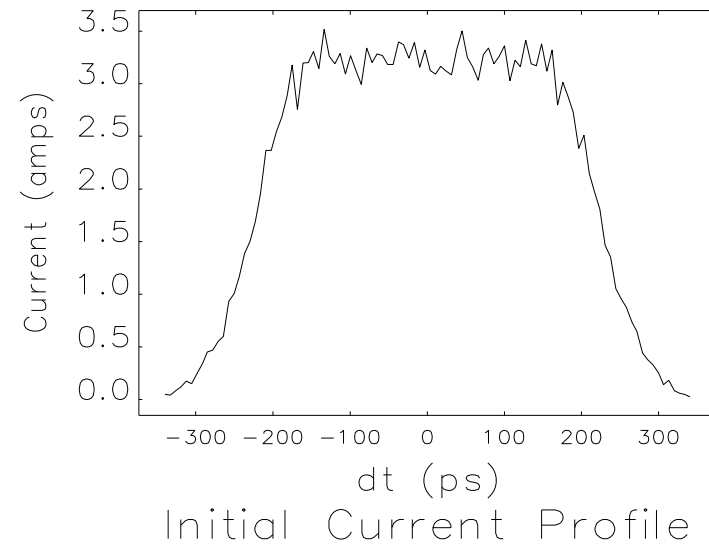
4 gaussian beamlets with adjusted intensity



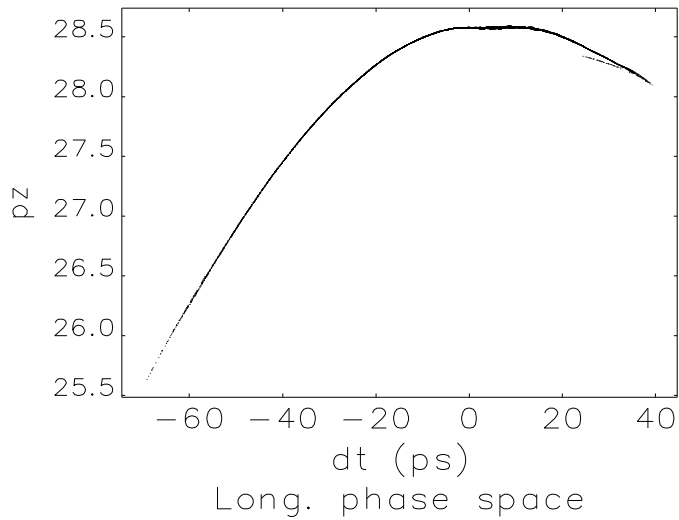
d1 = 0.9; d2 = 2.8; am = 0.884

In unit of sigma of gaussians, in simulation

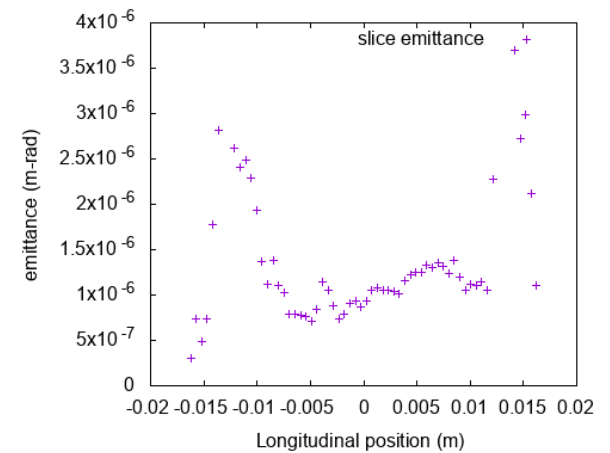
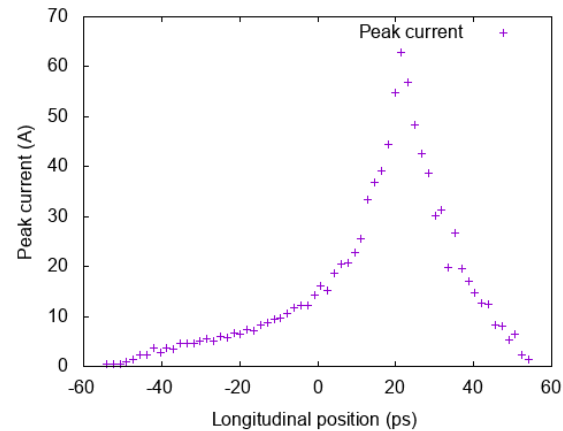
$$\sigma = 60 \text{ ps}$$



Beam quality

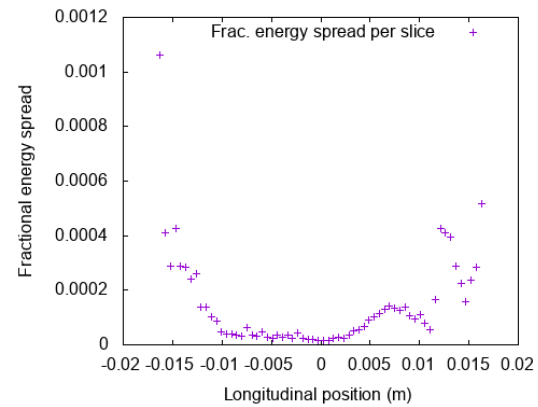
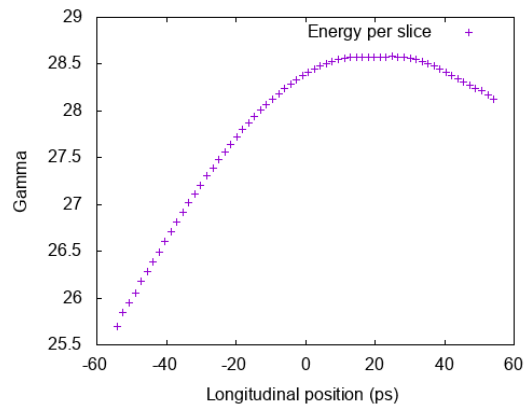
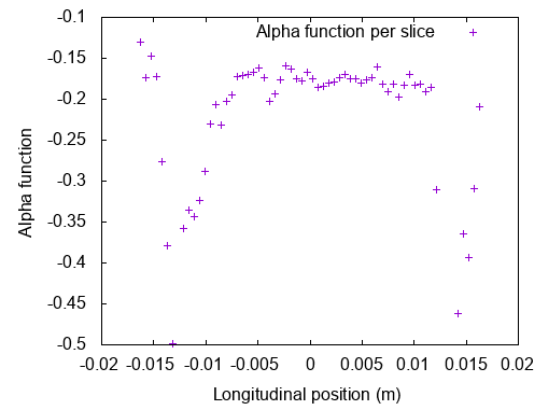
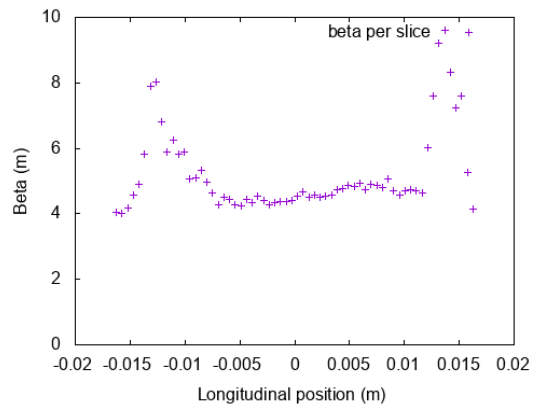


Low energy tail is **long** $\sim 10\%$,
need improvements



Offset in time is caused by
post processing (for slices) to
center with head and tail
around 0, highest current is
aligned with the plateau in
top energies

Center uniformity is improved



Future work

- Reduce sigmas of initial gaussian beamlets (10% energy tail will cause beam loss in CW operation)
- Increase compression
- Try using shorter initial bunch length with the same ratio