

EDS simulation:

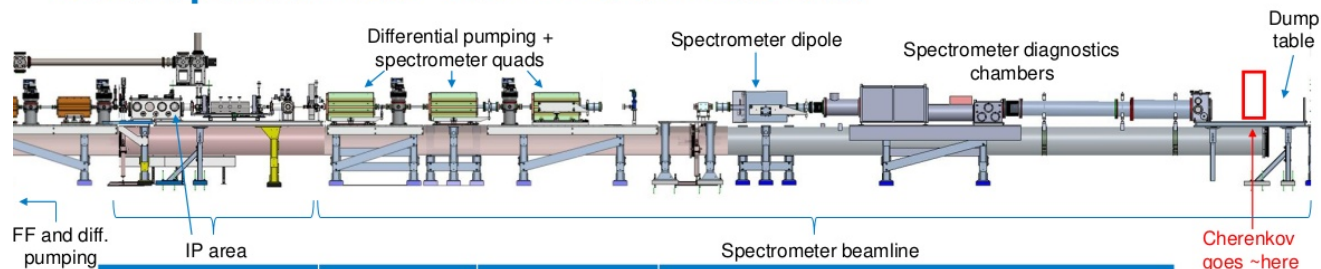
E320 setup



E320 EDS simulation

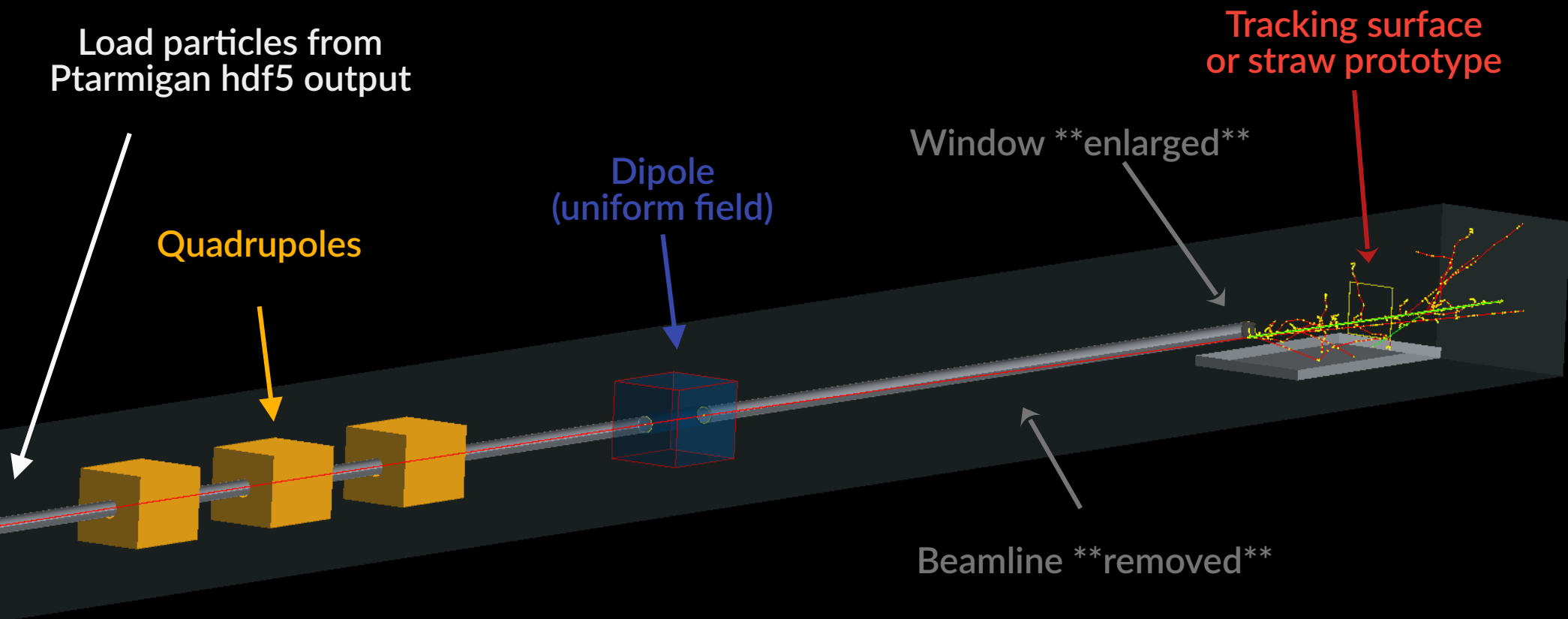
- ◆ Based on early setup from Antonios
- ◆ Using parameters from Ruth's 2023 study for ptarmigan + E320:

E320 Spectrometer Beamline & Distances

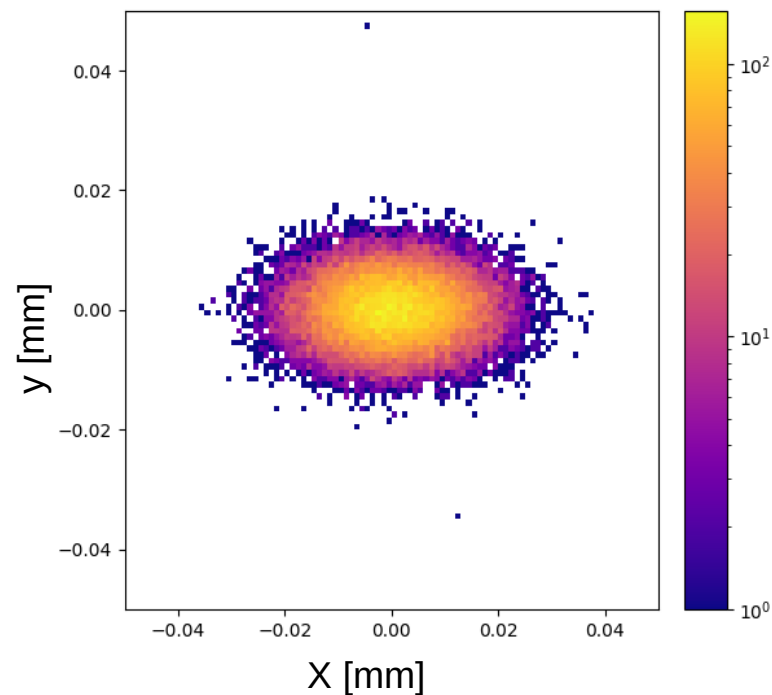
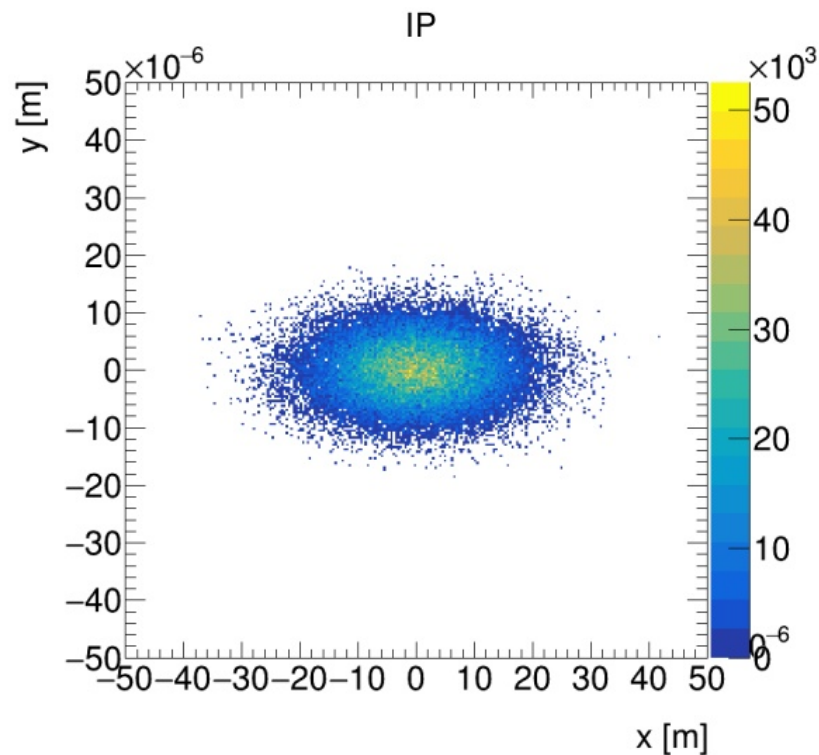


	Z location [m]	Element	Details
Compton IP	~1992.8	e-beam/laser IP	
Q0D quad	1996.98	Quad	Length = 1 m, Integrated gradient $B'L = -14$ T (**)
Q1D quad	1999.21	Quad	Length = 1 m, Integrated gradient $B'L = 22$ T (**)
Q2D quad	2001.43	Quad	Length = 1 m, Integrated gradient $B'L = -14$ T (**)
Spec. Dipole	2005.94	Dipole	Length = 0.98 m, Integrated field $BL = 0.26$ Tm (**)
Vacuum exit window	2015.54	Window	5mm thick aluminum, 6 in. wide
Dump shield	2027.3	Gap	2 in. wide gap in lead wall, 4 in. thick
Dump Entrance	2028.0	Gap	2.5 in. gap in shielding
Dump	2028.6	Beam stop	Water cooled copper block - shielded by 8 in.+ lead, 11in. + borated polyethylene

Setup

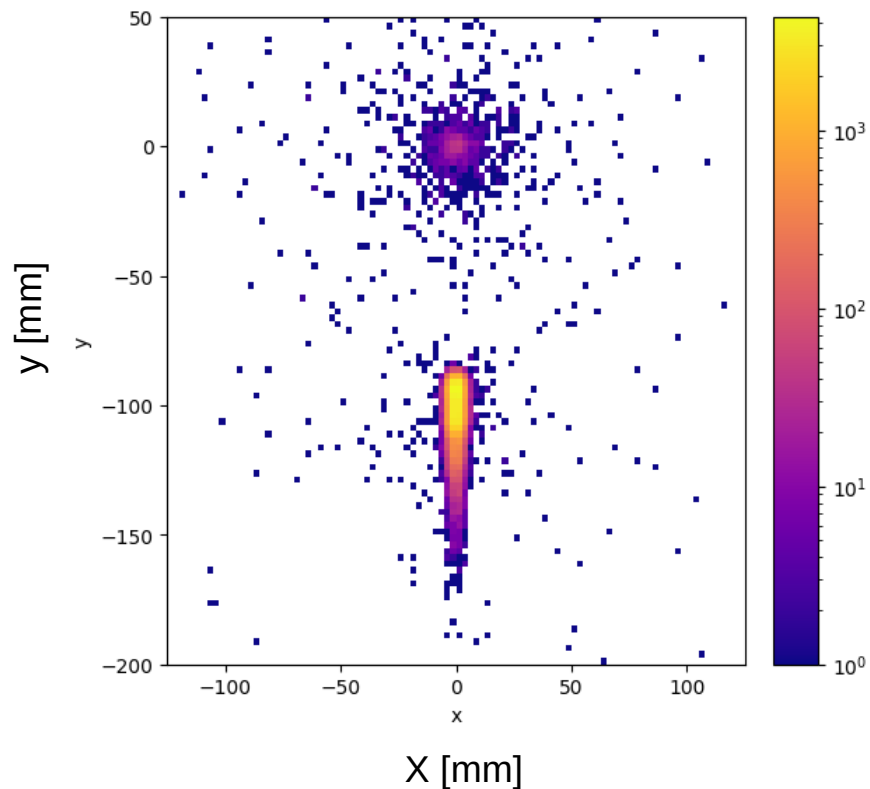


Tracking surface @ IP

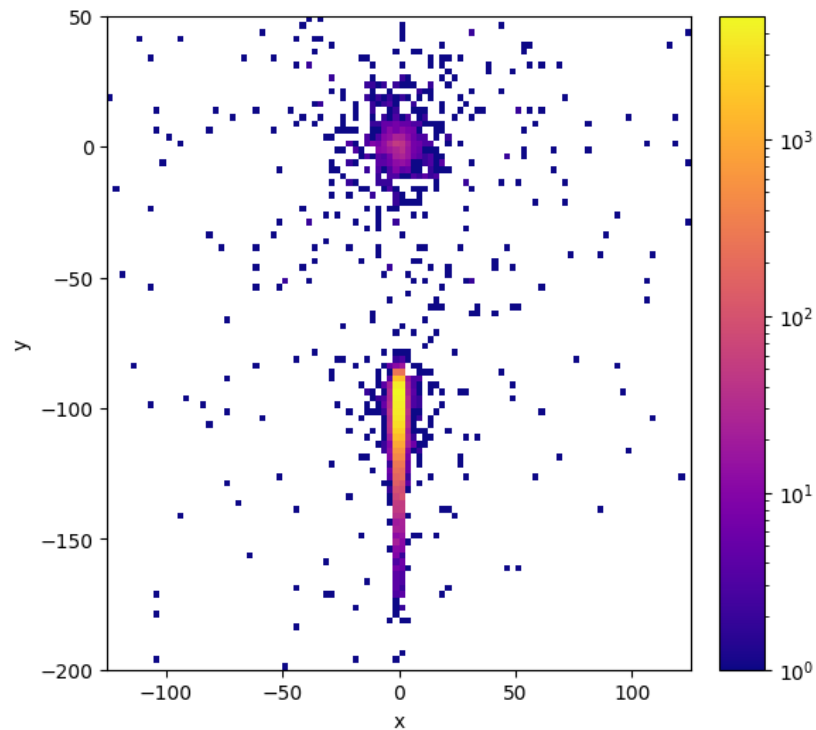


Update: now with quads

no quadrupoles



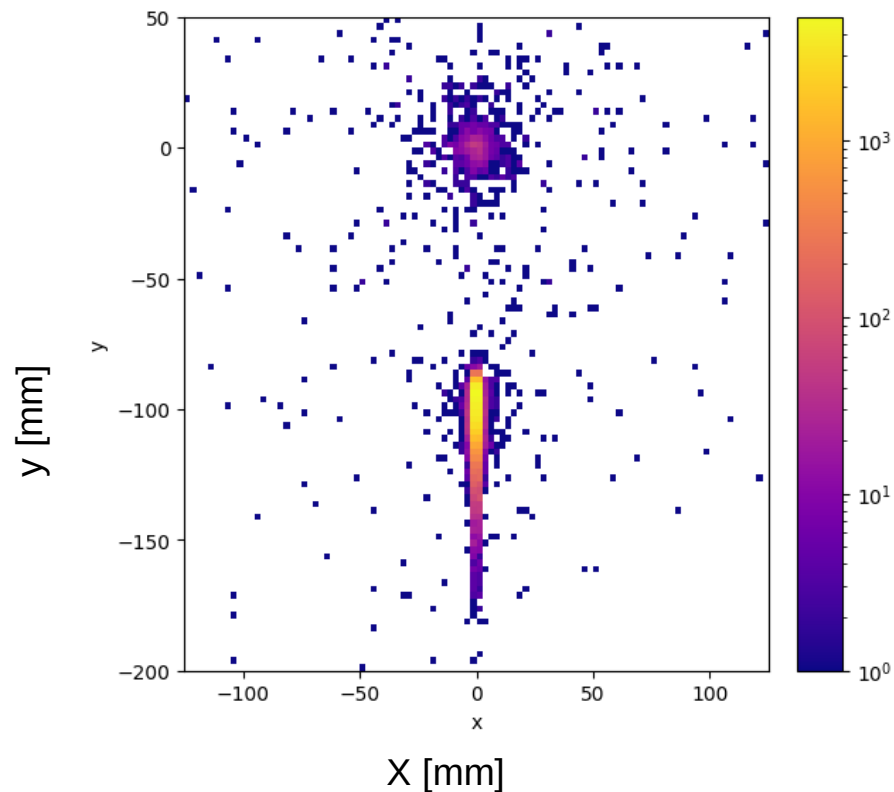
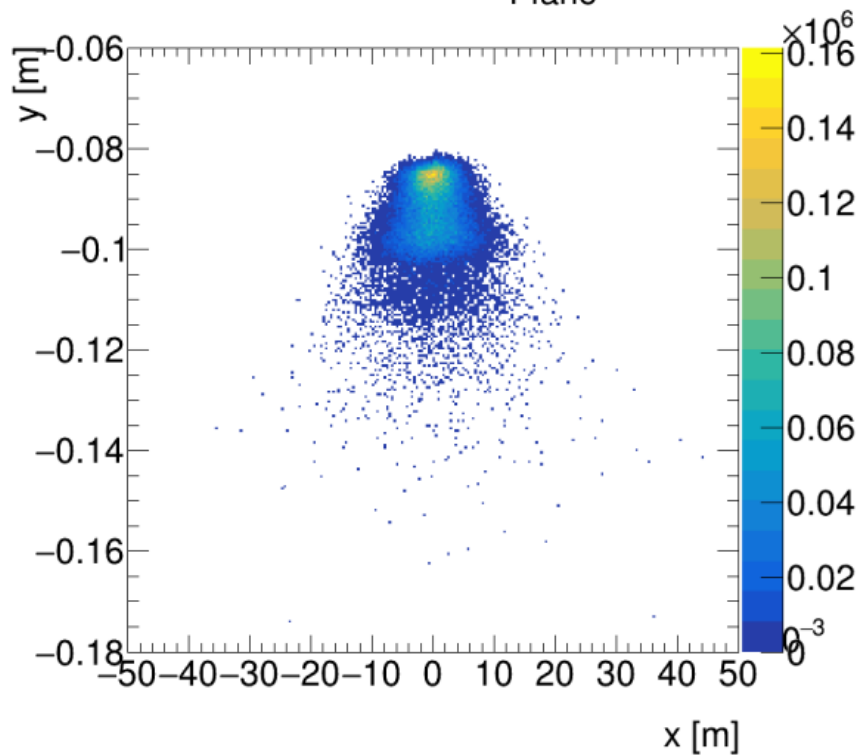
quadrupoles



Tracking surface @ detector

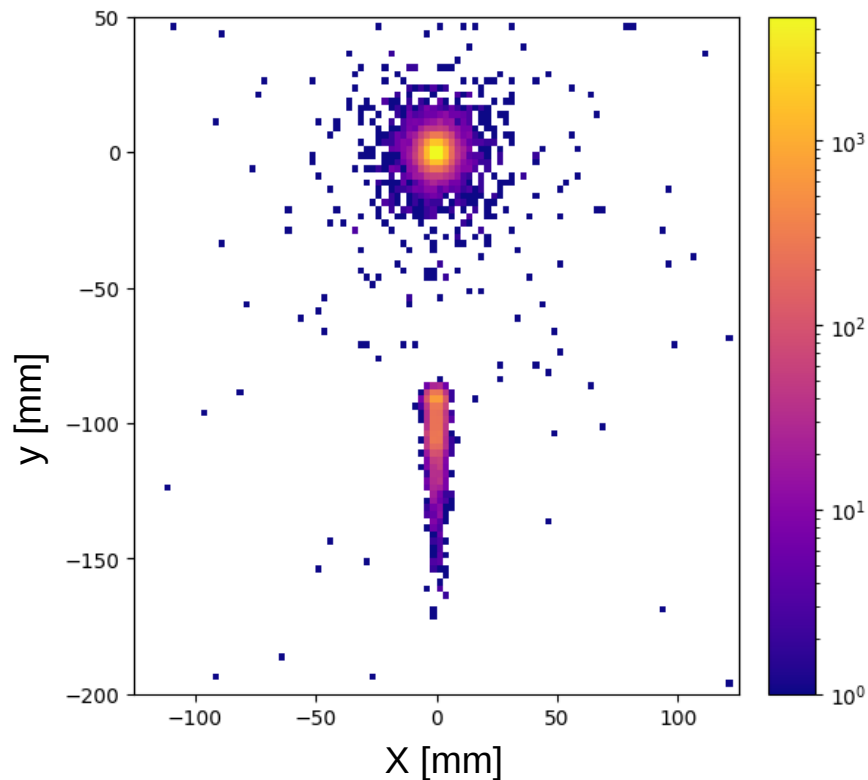
From Ruth's studies

Detector
Plane



Tracking surface @ detector

Photon hits:



Positron hits

