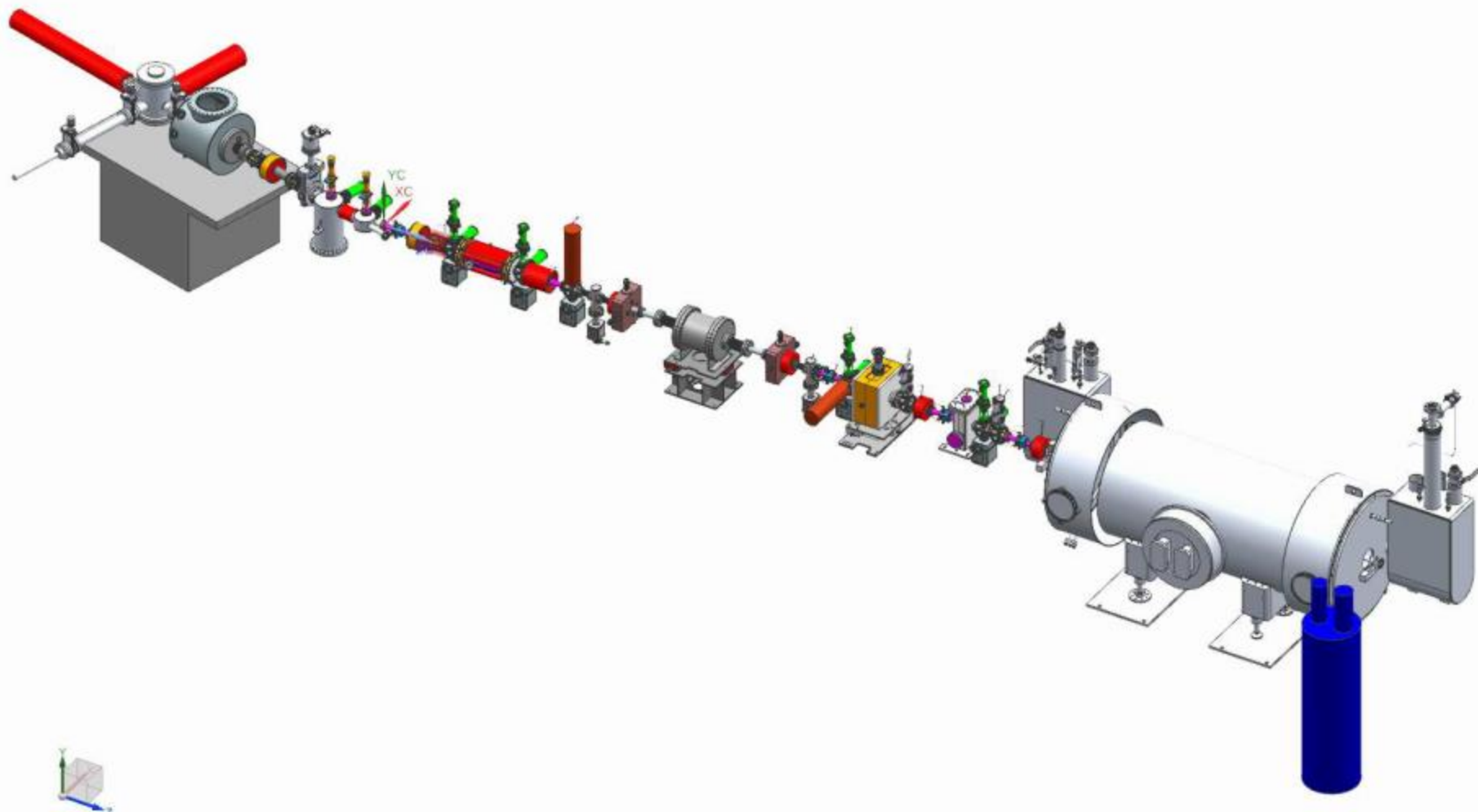


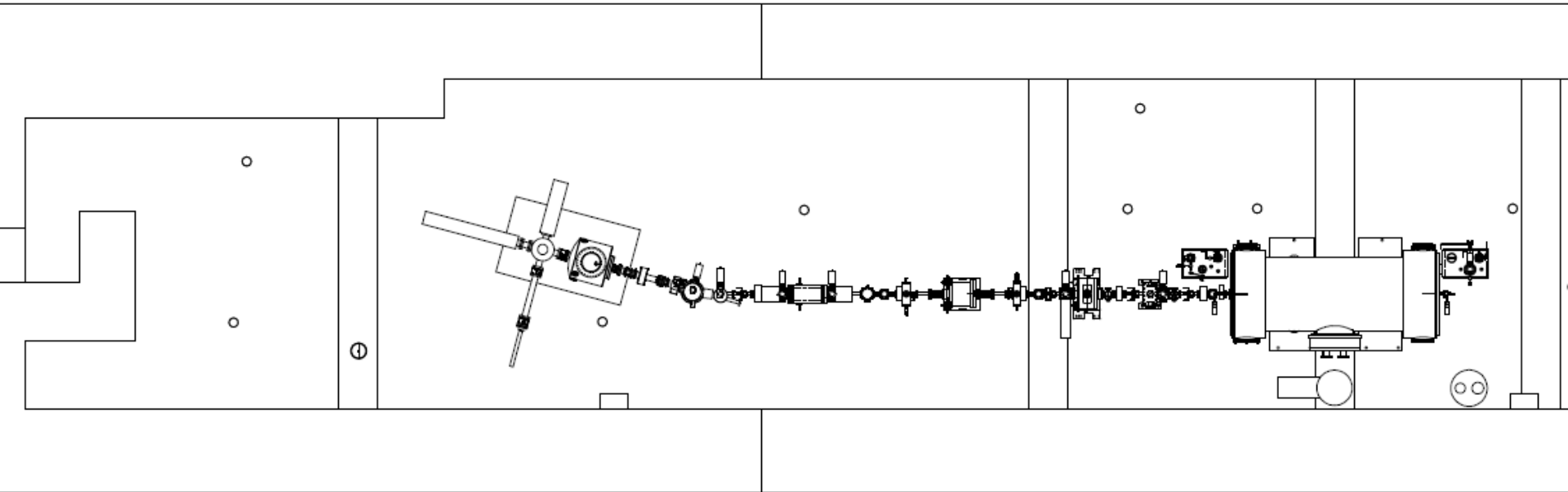
Downstream of the 2nd chopper cavity, this seems like a good ordering of components:

- VBV03 (VAT bakeable all metal 2.75" valve, with pneumatic actuator)
- IPM06 bpm with haimson magnets on top
- ITV05 6-way cross, together with PCup and ion pump
- Buncher
- IFYA3 (this can be on a 6 way cross or a 6 way cube)
- Spectrometer dipole magnet and vacuum can, spectrometer components described below
- IPM07 bpm with haimson magnets on top
- Yao cavity (move this small thing just upstream of ¼ CM?)
- Narrow profile dif pump can, with an ion pump
- ITV06 6-way cross with ion pump
- IFYA4 (this can be on a 6 way cross or a 6 way cube)
- IPM08 bpm with haimson magnets on top
- MFA06 (if Joe says we need it, based on optics modeling)
- VBV04 (VAT bakeable all metal 2.75" valve, with pneumatic actuator)





BEAM →



- Move the $\frac{1}{4}$ back between the two trenches?
- Missing from drawing: spectrometer just downstream of buncher.
Which dipole magnet do we use?
- Yao cavity just upstream of $\frac{1}{4}$ CM? efficient use of space, less distance to extrapolate...
- Can chopper (with slit and rf and downstream viewers) and spectrometer beamline be used to evaluate beam properties?
Bunchlength, emittance and energy spread
- Metal valves generate particulates?
- Eventually, we will reduce length of transverse manipulator on gun
- Need to design the bend magnet
- Need to design the stripline BPM, is there rep rate sensitivity?
- We need to pulse laser at $1497/2n$ MHz
- Vacuum concerns: Ion pump on buncher? Where to add NEG?
- Imagine steering up beam, do we have the diagnostics needed, and in the right places?
- Optic model verification that this beamline will “work”
- Hold an “outside” review of beamline design

