**Electron Injector parameters for Positron Injector**

**Presented for IPAC 2023**

***Initial conditions***

Mean Transverse Energy for GaAs with 770 nm laser wavelength: 30.691 meV

Spot size: 0.54 mm

Laser Pulse Length: 45 ps FWHM

Gun HV: 350 kV

Beam current: 3 mA at 1497 MHz

***CEBAF goals at entrance to full module*** IPAC 2023 ***Consider***

Minimize normalized emittance: < 1 mm mrad < 3 mm mrad

Minimize bunchlength (sigma): < 0.5 ps < 1.5 ps

Constrain sigma Ek at exit of quarter: < 10 keV < 30 keV

**Alternatively**

***FEL goals at entrance to full module***  FEL 2004\* ***Consider***

Minimize normalized emittance: < 10 mm mrad < 30 mm mrad

Minimize bunchlength (sigma): < 2.5 ps < 7.5 ps

Constrain sigma Ek at exit of quarter: < 15 keV < 45 keV

\*FEL initial beam parameters different (e.g., larger spot size, longer pulse length, etc.)