



Contribution ID: **1019** Contribution code: **WEPM009**

Type: **Poster Presentation**

Design Progress on 50MW Pulsed Power C-band Klystron Gun and Magnet

Wednesday, 10 May 2023 16:30 (2 hours)

This paper describes the design progress of the electron gun, and solenoid of 50 MW class klystron at C-band frequency (5720 MHz) for CEPC LINAC. The beam optics is designed in DGUN code for a space charge beam current of 318 A at an acceleration potential of 350 kV with average cathode loading of less than 6.0 A/cm². The maximum surface electric field at the beam optics and high voltage ceramic seal is reduced to be less than 18.65 kV/mm and 3.81 kV/mm, respectively. The magnet design transports the beam with low scalloping parameter less than 5.0 % with laminar flow downstream. Gun envelop and magnetic field are designed in POISSON code. 3-D CST simulation is under progress for validation of 2D simulation results.

Funding Agency

Footnotes

I have read and accept the Privacy Policy Statement

Yes

Primary authors: IQBAL, Munawar (Chinese Academy of Sciences); ZHOU, Zusheng (Institute of High Energy Physics)

Co-authors: XIAO, Ouzheng (Institute of High Energy Physics); Mr ZHANG, Zhandong (Institute of High Energy Physics)

Presenters: IQBAL, Munawar (Chinese Academy of Sciences); Mr ZHANG, Zhandong (Institute of High Energy Physics)

Session Classification: Wednesday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability; MC7.T08: RF Power Sources