Contribution ID: **1007** Contribution code: **WEPB118** Type: **Poster Presentation**

RF design of a two-stage pulse compression system based on Barrel Open Cavity

Wednesday 4 June 2025 16:00 (2 hours)

In this paper we desgin a X-band two-stage pulse compression system based on barrel open cavity (BOC), which is driven by a 6-MW X-band klystron. By utilizing numerous coupling holes surrounding the resonant cavity, a rotating-wave-like mode is excited in BOC, thereby enabling an extremely high Q-factor over 2.3×10^5 at 11.424 GHz. A RF pulse can be flattened through the employment of the correction cavity chain. This two-stage pulse compressoion system is designed to modify an input pulse of 5 μs into a flat-top pulse of 250 ns with a power gain over 10.

Footnotes

Paper preparation format

Word

Region represented

Asia

Funding Agency

Author: CAO, Zexin (University of Science and Technology of China)

Co-authors: WEI, Yelong (University of Science and Technology of China); ZHANG, Yihao (University of Science and Technology of China); HUANG, Zhicheng (University of Science and Technology of China); ALESINI, David (Istituto Nazionale di Fisica Nucleare); FAILLACE, Luigi (Istituto Nazionale di Fisica Nucleare); FENG, Guangyao (University of Science and Technology of China); WANG, Chengzhe (University of Science and Technology of China)

Presenter: WANG, Chengzhe (University of Science and Technology of China)

Session Classification: Wednesday Poster Session

Track Classification: MC7: Accelerator Technology and Sustainability: MC7.T06 Normal Conducting RF