



ICIS'23
International
Conference
on Ion Sources
Victoria, BC, Canada

Contribution ID: 177

Type: **Contribute Oral**

Recent Research and Development of RF-Driven H-Sources at CSNS

Tuesday, 19 September 2023 14:20 (20 minutes)

The RF-driven ion source has been put into commissioning on China spallation neutron source (CSNS) accelerator since September of 2021. It has a service life time of more than 310 days and availability of almost 100%. To fully meet the requirements of CSNS project phase-II (CSNS-II), the beam intensity should be enhanced and the transverse emittance should be minimized. This report covers the recent research and development of the RF-driven H^- source, including the impurities elimination from the hydrogen plasma, the transverse emittance optimization, and space charge compensation study. A new test bench consisting of an ion source and an LEBT is constructed to carry out these measurements and research. A featured function of the LEBT is the electrostatic beam chopping. The influence of chopping electric field to the space charge compensation is also experimentally studied.

Funding Agency

Email Address

chenwd@ihep.ac.cn

I have read the Code of Conduct to attend ICIS2023.

Yes

Presenter if not the submitter of this abstract

Primary author: CHEN, Weidong (Institute of high energy physics, Chinese academy of sciences (CAS))

Presenter: CHEN, Weidong (Institute of high energy physics, Chinese academy of sciences (CAS))

Track Classification: Negative Ion Sources and Sources for Fusion Facilities