



Contribution ID: 35

Type: **Poster (by default)**

Multi-Filament Ion Source for Uniform Ion Beam Generation

Ion beams are employed in various fields such as semiconductor manufacturing, surface modification, and material science. The uniformity of ion beams is crucial in many applications, but conventional ion sources that use a single filament often limit the uniformity and intensity of the ion beam. This paper presents a study that aims to optimize a multi-filament ion source to enhance the uniformity of ion beams. The study includes a detailed explanation of the ion source components and design, methods for measuring ion beam uniformity, experimental design, results, and analysis, discussions and conclusions, and suggestions for future research directions. The experimental results demonstrate that the use of a multi-filament ion source improves ion beam uniformity compared to a single-filament ion source. An optimal design for the ion source components and new approaches for improving ion beam uniformity are described. The study's results provide important information for improving ion beam uniformity and offer a technical basis for providing high-quality products and services in various industries.

Funding Agency

Grant from South Korea

Email Address

bahngjb@gmail.com

I have read the Code of Conduct to attend ICIS2023.

Yes

Presenter if not the submitter of this abstract

Jungbae Bahng

Primary authors: BAHNG, Jungbae (Kangwon National University Hospital); Mr KIM, Yuncheol (Korea University)

Co-authors: Dr CHOI, Bong-Hyuk (Pohang accelerator laboratory); Mr YU, Jinsung (Pohang accelerator laboratory); Dr NAM, Seung-Hee (Pohang accelerator laboratory)

Presenter: BAHNG, Jungbae (Kangwon National University Hospital)

Session Classification: Monday

Track Classification: Production of High Intensity Ion Beams