



Contribution ID: 205 Contribution code: THPT43

Type: **Poster Presentation**

Modeling the dynamics of third-generation electron cyclotron resonance ion sources

Thursday, October 23, 2025 4:30 PM (20 minutes)

In the study of plasma properties of an Electron Cyclotron Resonance Ion Source (ECRIS), it is essential to accurately model the critical features of ECRIS within a numerical framework, particularly for third-generation ECRIS systems that operate at microwave frequencies exceeding 20 GHz. The three-dimensional particle-in-cell model, NAM-ECRIS, has been updated to investigate the response of the 3rd ECRIS, such as SECRAL-II, to variations in source parameters. The key process of secondary electron emission has been incorporated into the model. Additionally, the selection of appropriate secondary electron emission yields for third-generation ECRIS systems was studied.

Footnotes

Funding Agency

I have read and accept the Privacy Policy Statement

Yes

Author: XINYU, Wang (Institute of Modern Physics, Chinese Academy of Sciences)

Presenter: XINYU, Wang (Institute of Modern Physics, Chinese Academy of Sciences)

Session Classification: THPT poster session

Track Classification: WGB:Beam Dynamics in Linacs