

Ion Sources

Thursday, April 28, 2022 4:15 PM (1 hour)

A quick journey through ion sources, from the plasma pioneers and hot filament ion sources, to microwave ion sources and Electron Cyclotron Resonance (ECR) ion sources. Even higher charge states can be reached with Electron Beam ion sources. Vacuum arc and laser plasma ion sources are used for 'hard to ionise' materials. There are several good uses for negative ions, but how do you make them? Caesium is key to high current negative ion production, however the volume process can also reliably and cleanly create negative ions. The Low Energy Beams Group at ISIS is currently developing two world leading negative ion sources: the 150 mA 2X Scaled Penning Surface Plasma Source and an un-caesiated maintenance-free Inductively Coupled Plasma (ICP) negative volume source for ISIS operations.

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