

Room-Temperature EBIS/T Developments: Past, Present and Future

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ABSTRACT: We present a brief overview of the Dresden EBIS/EBIT ion source family focusing on the advantages and limits of different types of permanent magnet systems for electron beam compression. The advanced electron optics of these sources as well as the operating parameters of the Dresden EBIT, EBIS, and EBIS-A are discussed. Furthermore, the recently commissioned Dresden EBIS-SC is introduced. Using a cryogen-free superconducting magnet system it stands out as a new kind of compact and powerful electron beam ion source.

KEYWORDS: room-temperature EBIS/T; Dresden EBIS-SC; ion production; highly charged ions.

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