GSI

Thanks to the variety of ion sources at its disposal, GSI is unique among research facilities worldwide in that it can generate positively charged ions of many different naturally occurring element. These range from “simple” hydrogen ions to ions of uranium. GSI’s area of special expertise is heavy ions. The type of ions produced, and their charge state, depends on the requirements of the scientists who are currently conducting experiments. The scientists decide whether they require a large number of ions, highly charged ions or very fast ions.

The accelerators at GSI have three injectors that can host six different types of ion sources. Two of the injectors are at the head of the UNILAC linear accelerator, one in the middle. This means that not only several experiments with different ions can be conducted in parallel but also different methods can be employed to vary beam properties:

- Vacuum arc ion sources
  - MEVVA
  - VARIS
- Filament driven ion sources
  - MUCIS
  - CHORDIS
  - MUCIS NEW 2010
- Penning Ionization Gauge (PIG) ion sources
- ECR Ion sources: CAPRICE-type