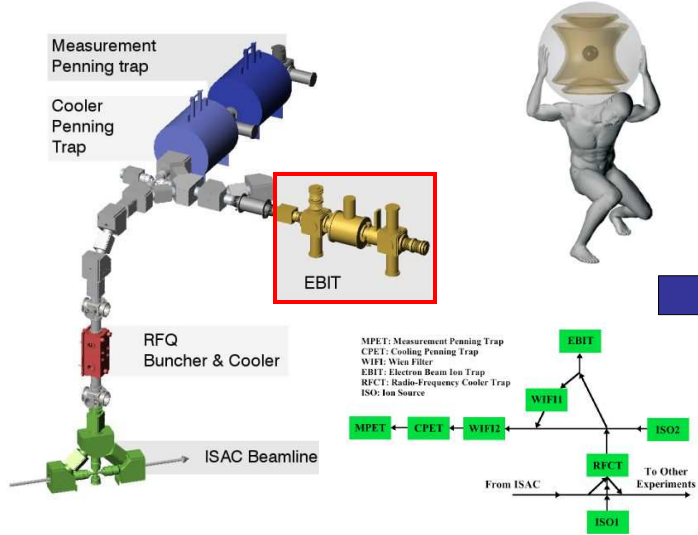


The TITAN-EBIT: An Electron Beam Ion Trap as a Charge Breeder of Short-Lived Isotopic Highly Charged Ions

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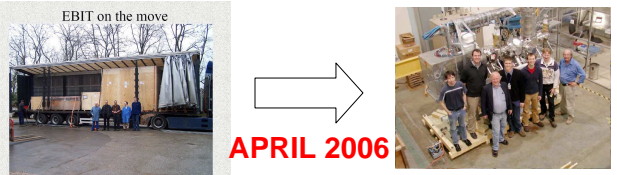
High-precision atomic mass measurements of short-lived isotopic ions at TITAN



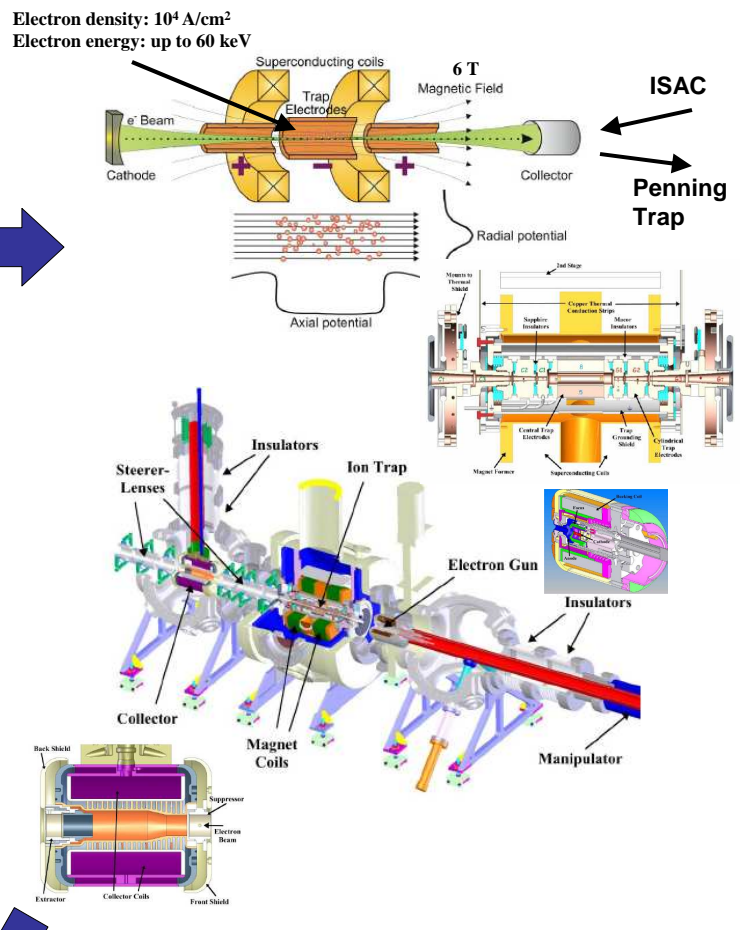
The precision of mass measurements is increased using highly charged ions (q =ion charge)

$$\frac{\delta m}{m} \approx \frac{m}{TqB\sqrt{N}}$$

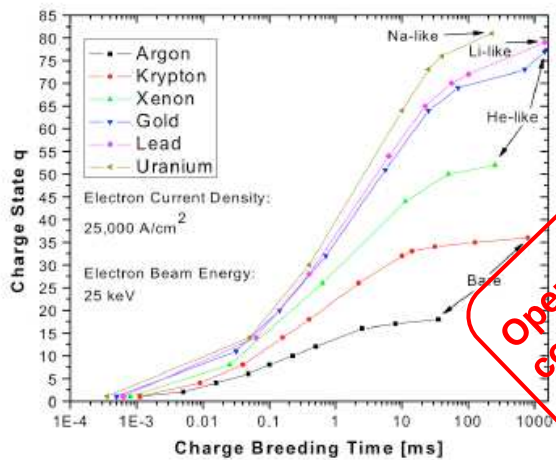
TITAN-EBIT built at the MPI-K and shipped to TRIUMF



TITAN-EBIT will trap short-lived isotopic ions produced by ISAC and strip them up to high charge states



The breeding time of highly charged ions is on the order of the half-life of short-lived isotopes.



Operational and recently commissioned at ~20 keV electron beam energy!!!

TITAN-EBIT results: De-excitation and Radiative Recombination (RR) of highly charged ions

