

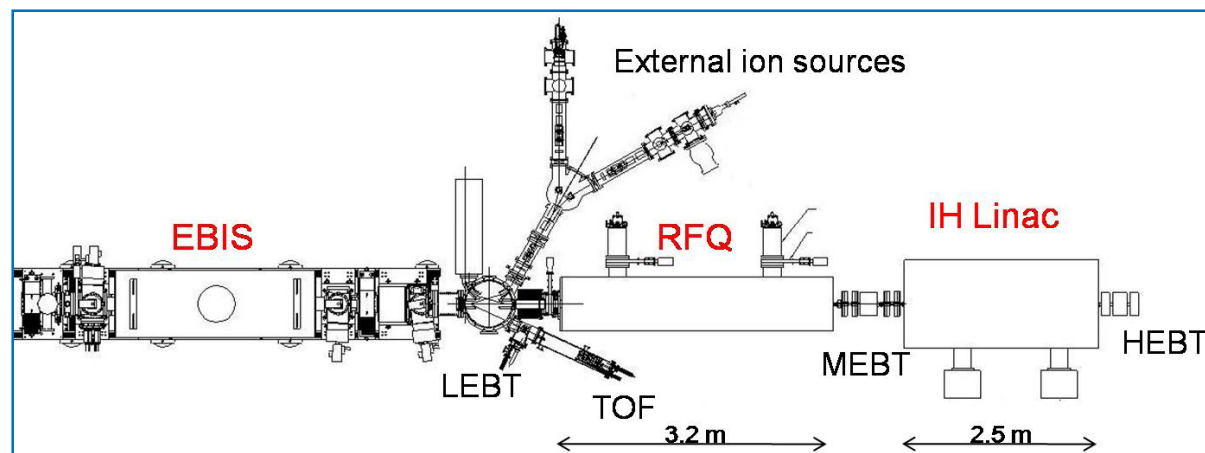
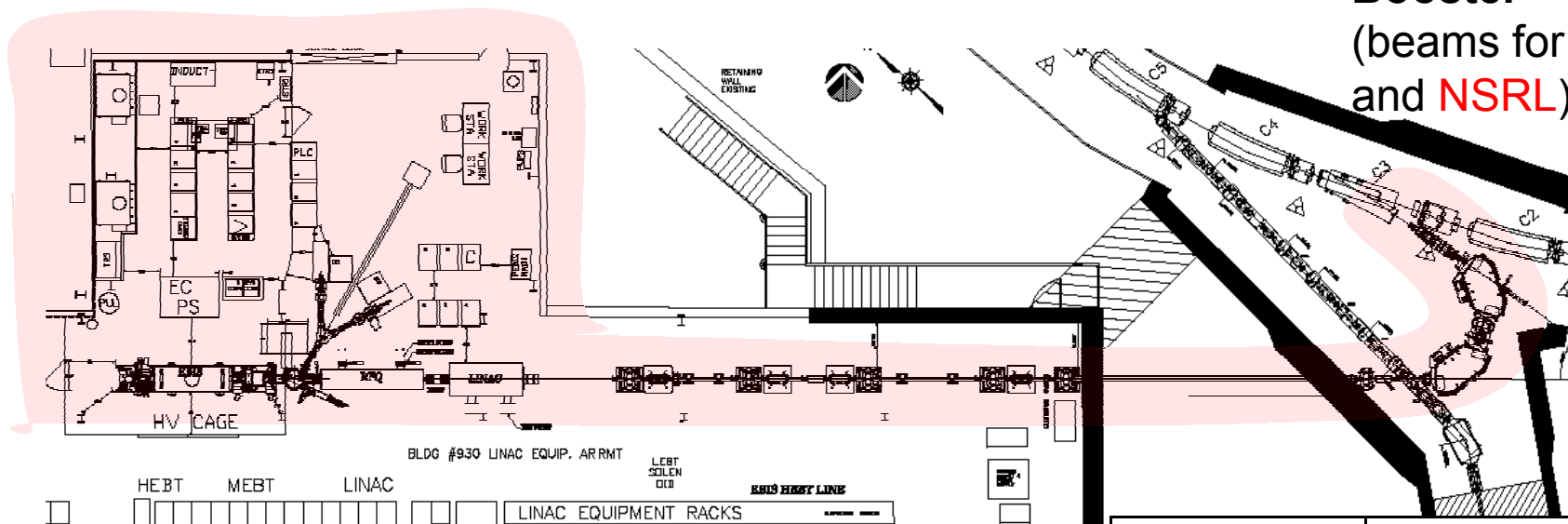
EBIS Preinjector Construction Status

J. Alessi

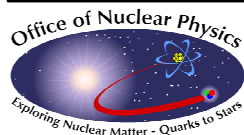
TUP120



Booster
(beams for **RHIC**
and **NSRL**)



Ions	He - U
Q / m	$\geq 1/6$
Current	> 1.5 emA
Pulse length	10 μ s (for 1-turn injection)
Rep rate	5 Hz
Output energy	2 MeV / u
Time to switch species	1 second



J. Alessi
EBIS Preinjector
Construction Status



September 30, 2008



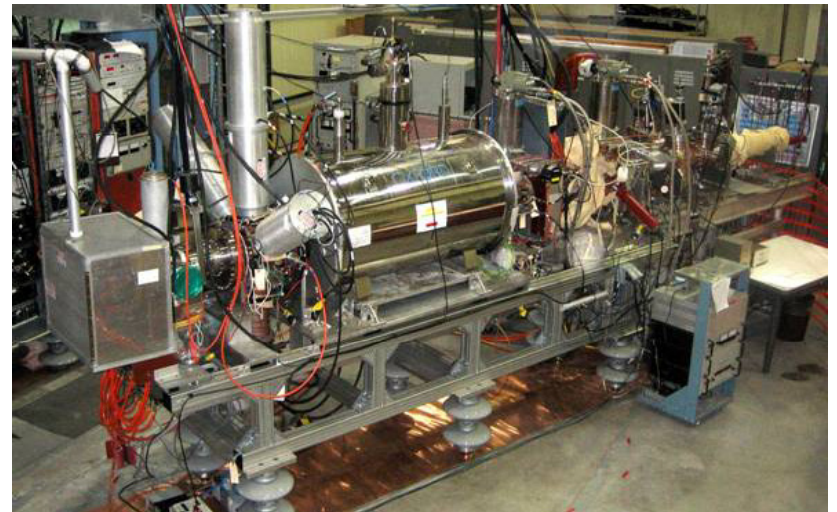
Advantages of the new preinjector:

- Can produce any ions
- 1 second switching between species
- Short transfer line to Booster (30 m vs. 800 m)
- Few-turn injection
- No stripping needed before the Booster (more stable beams)

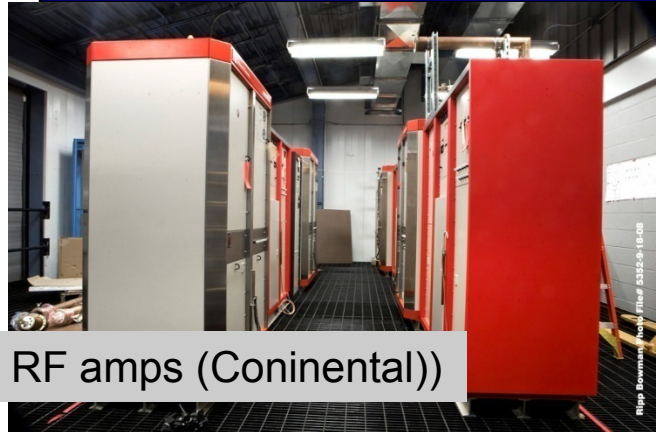
Need an ion source which can produce:

- Any species
- High charge states
- mA currents in the desired charge state in $\sim 10 \mu\text{s}$ pulses
- Switch species in 200 ms

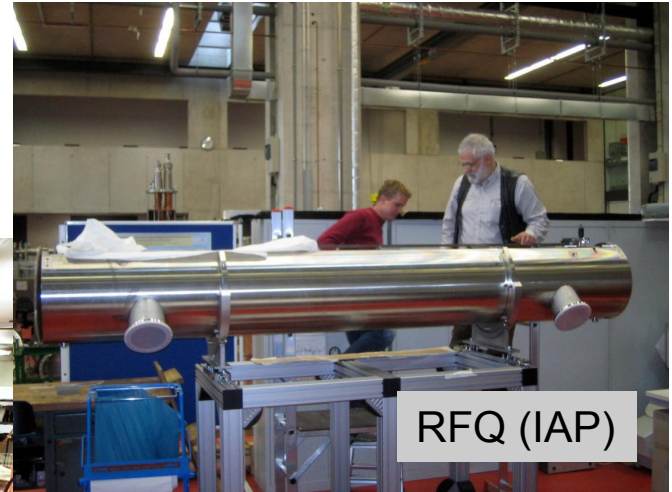
The Test EBIS at BNL has demonstrated these requirements



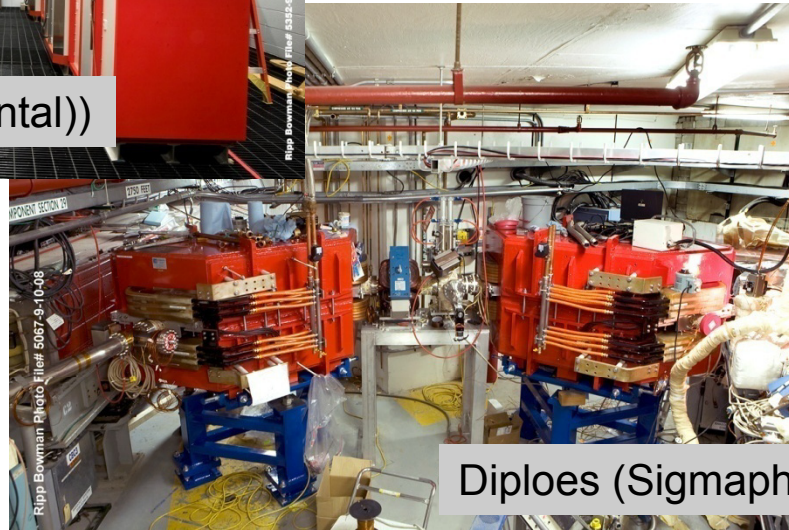
Hardware coming in



RF amps (Coninental)



RFQ (IAP)



Diploes (Sigmaphi)



SC solenoid (ACCEL)



EBIS and power supplies



September 30, 2008



- EBIS assembly is in process
- SC solenoid – now acceptance testing at Accel
- Booster-side beamline is complete
- RFQ (IAP, Frankfurt) – has shipped
- Linac (IAP, Frankfurt) – in fabrication; delivery Summer of 2009
- RF amplifiers and many EBIS power supplies are in house
- Final beam commissioning is scheduled to start in January, 2010

Poster TUP120