

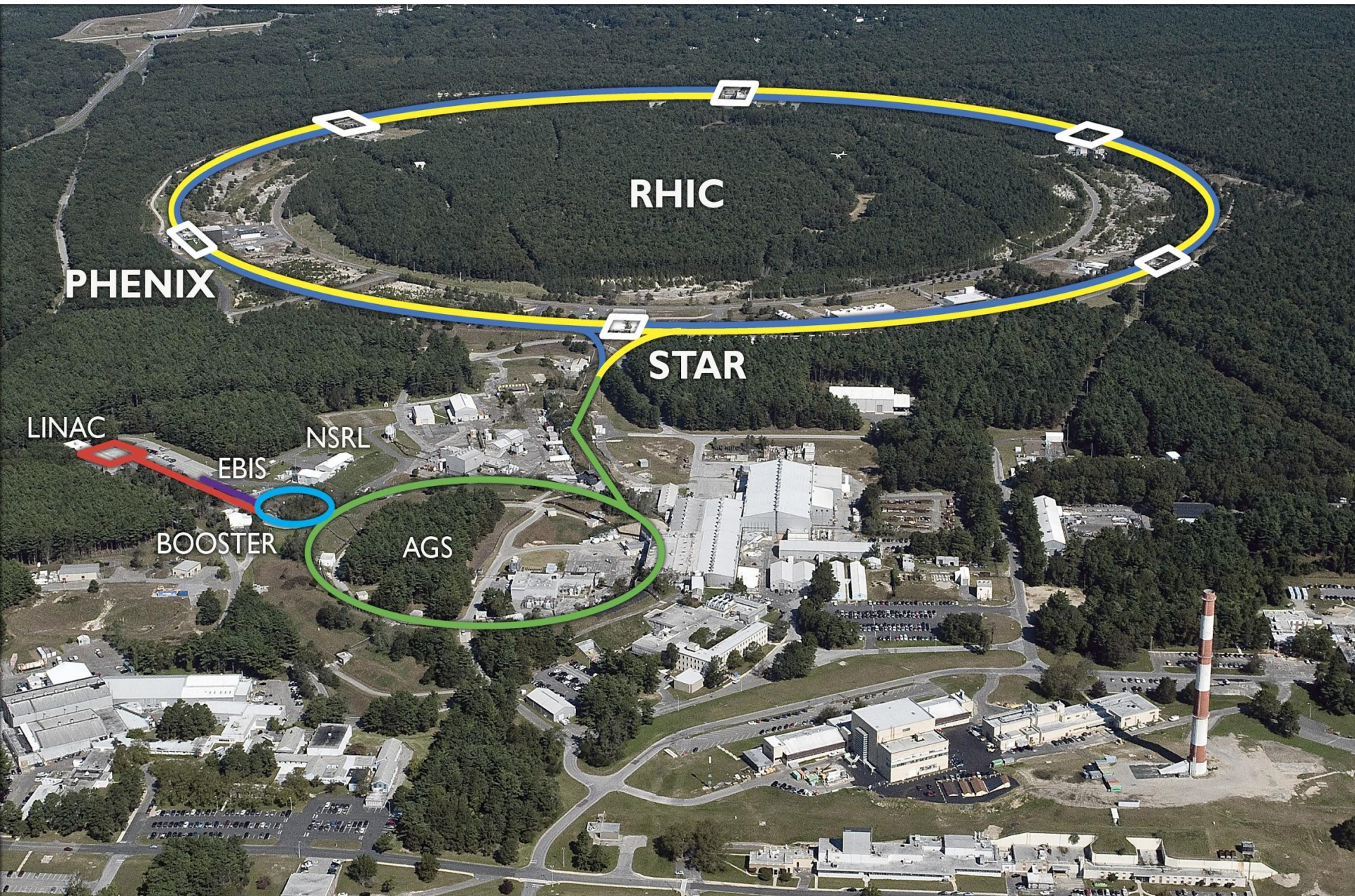
Various RF Systems within C-AD at BNL

Darryl Goldberg

June 24, 2016



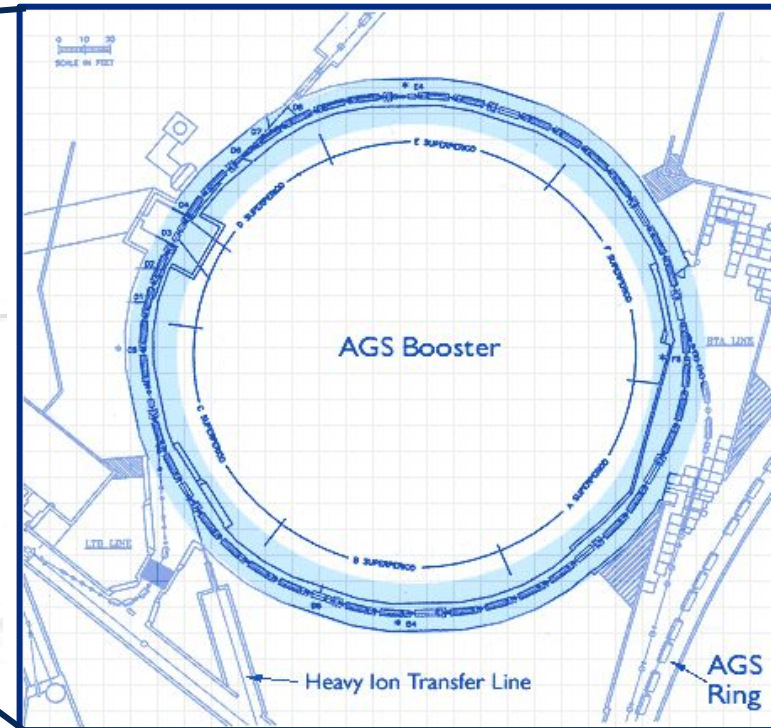
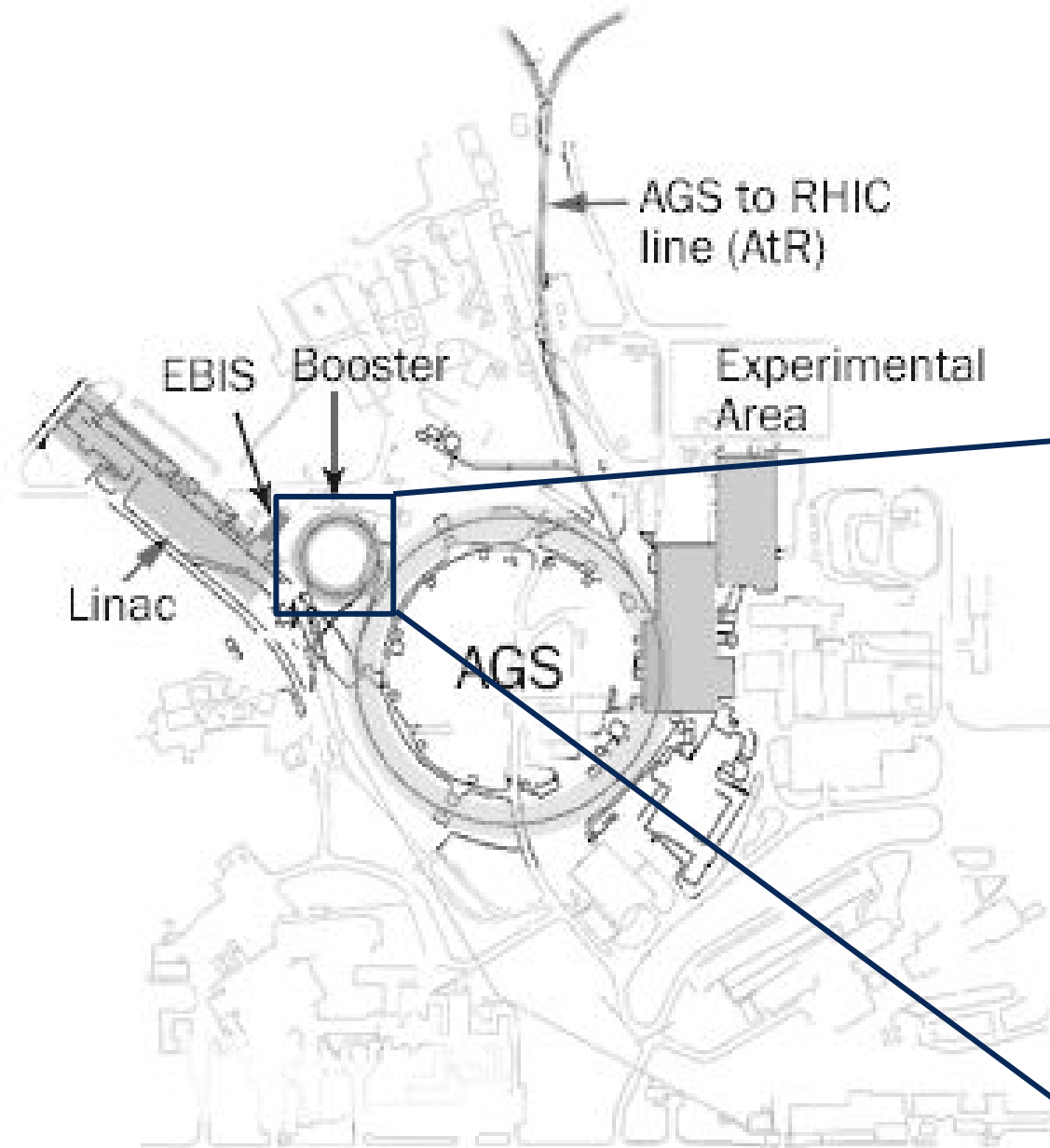
Collider-Accelerator Facilities



Booster

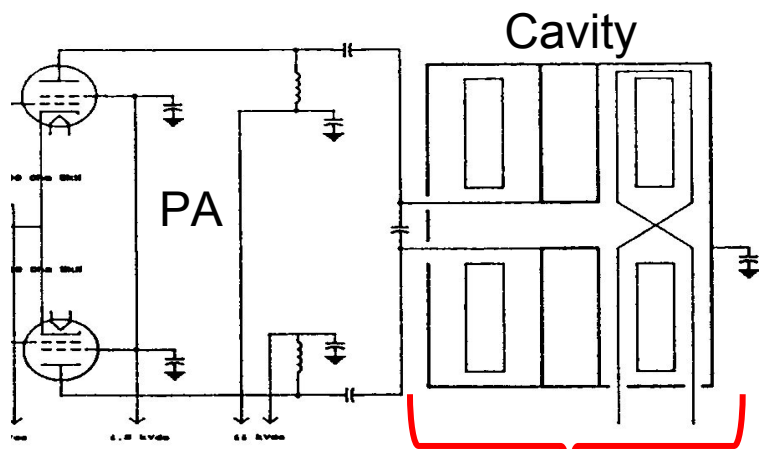
4 RF Systems

- 2 Band II (0.3 - 5 MHz)
- 2 Band III (0.7 - 1.5 MHz)





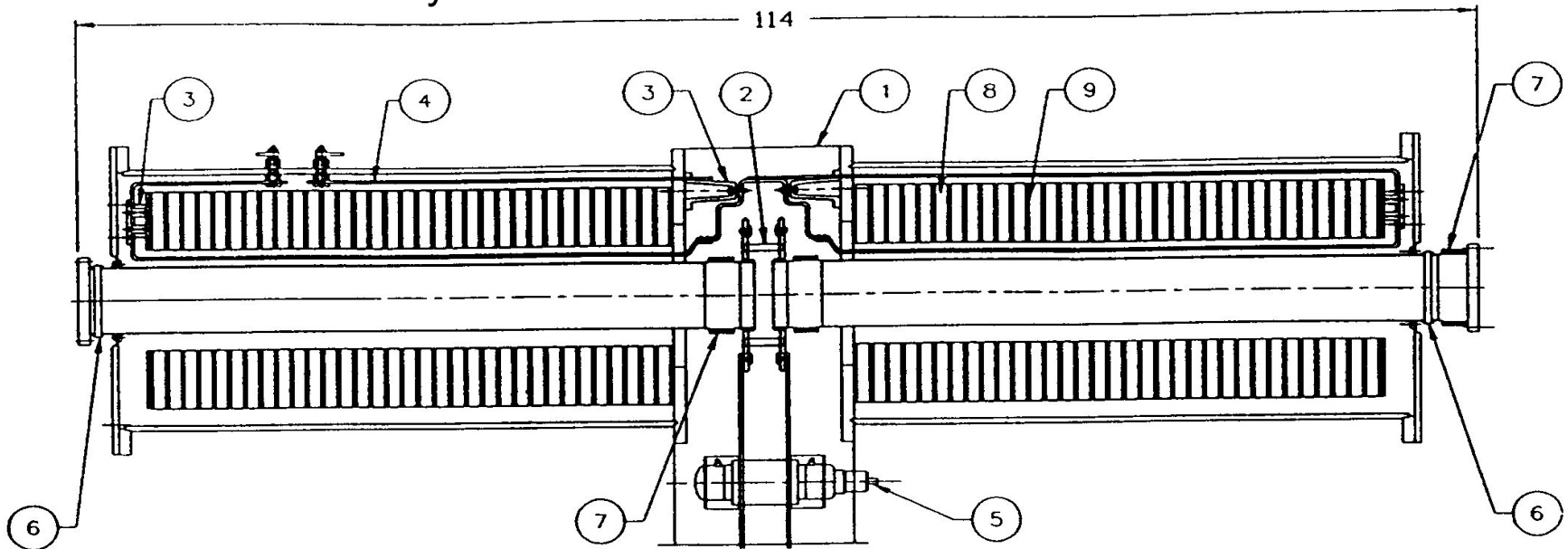
Booster Band II System



Band II PA and Cavity

- 66 SY7 ferrite rings
- Dual 150 kW EIMAC tetrodes
- 17 kV / gap peak

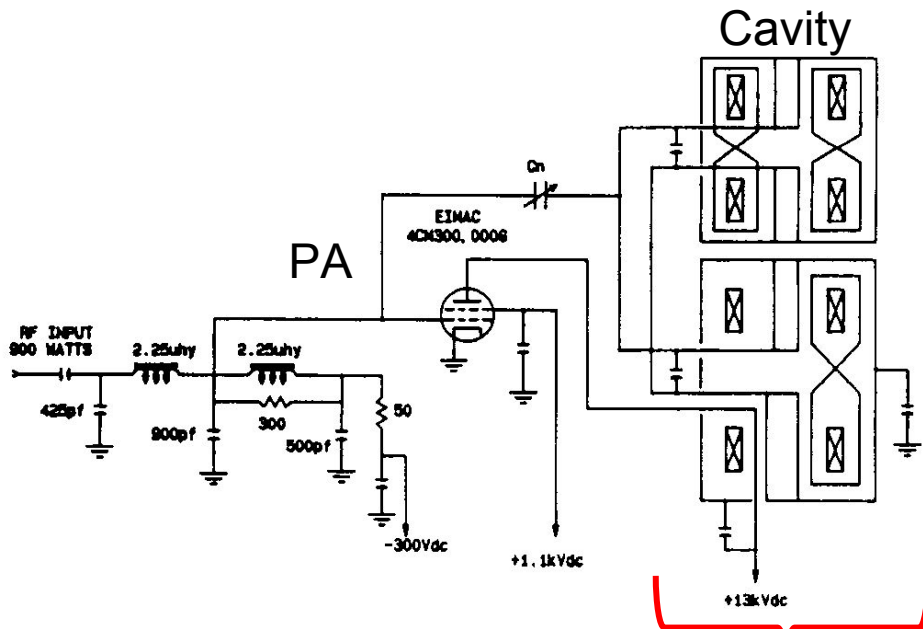
Cavity Cross-Section



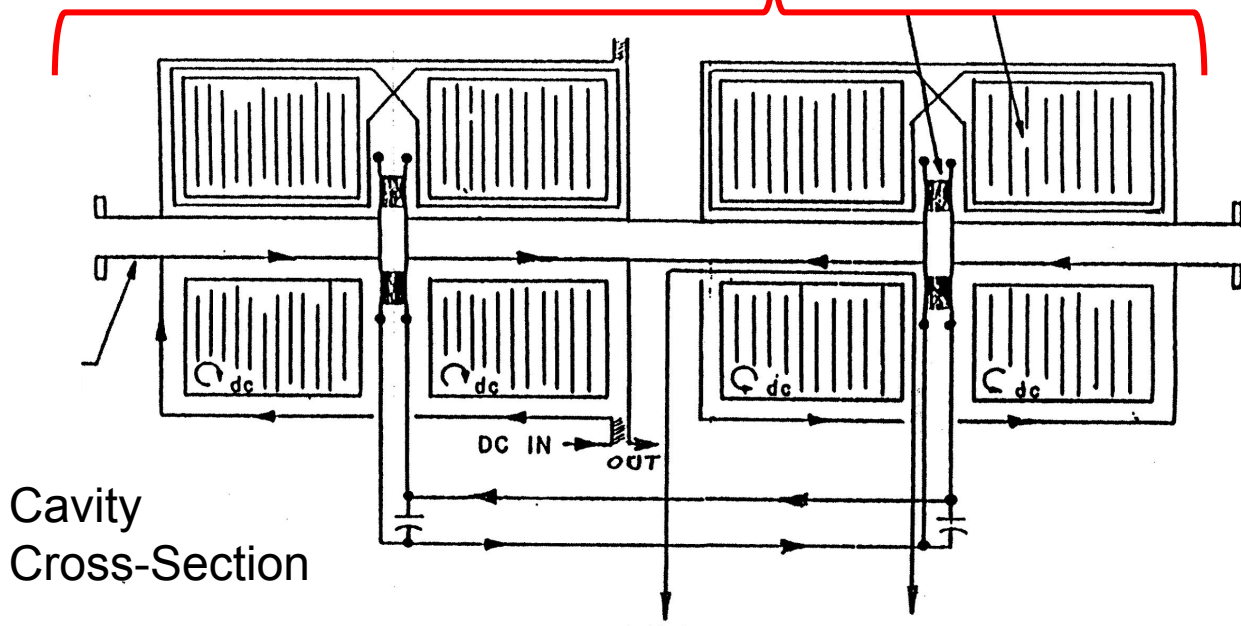
Booster Band III System



Band III PA and Cavity

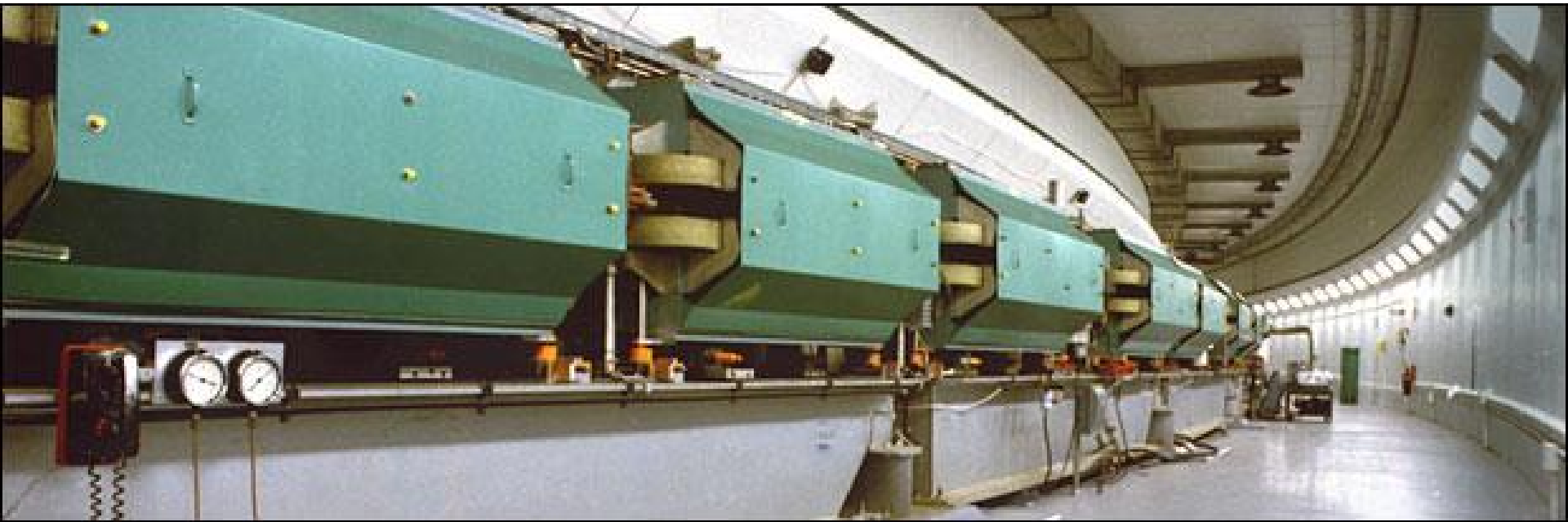


- 56 4M2 ferrite rings
- Single 300 kW EIMAC tetrode
- 22 kV / gap peak



Cavity
Cross-Section

Alternating Gradient Synchrotron

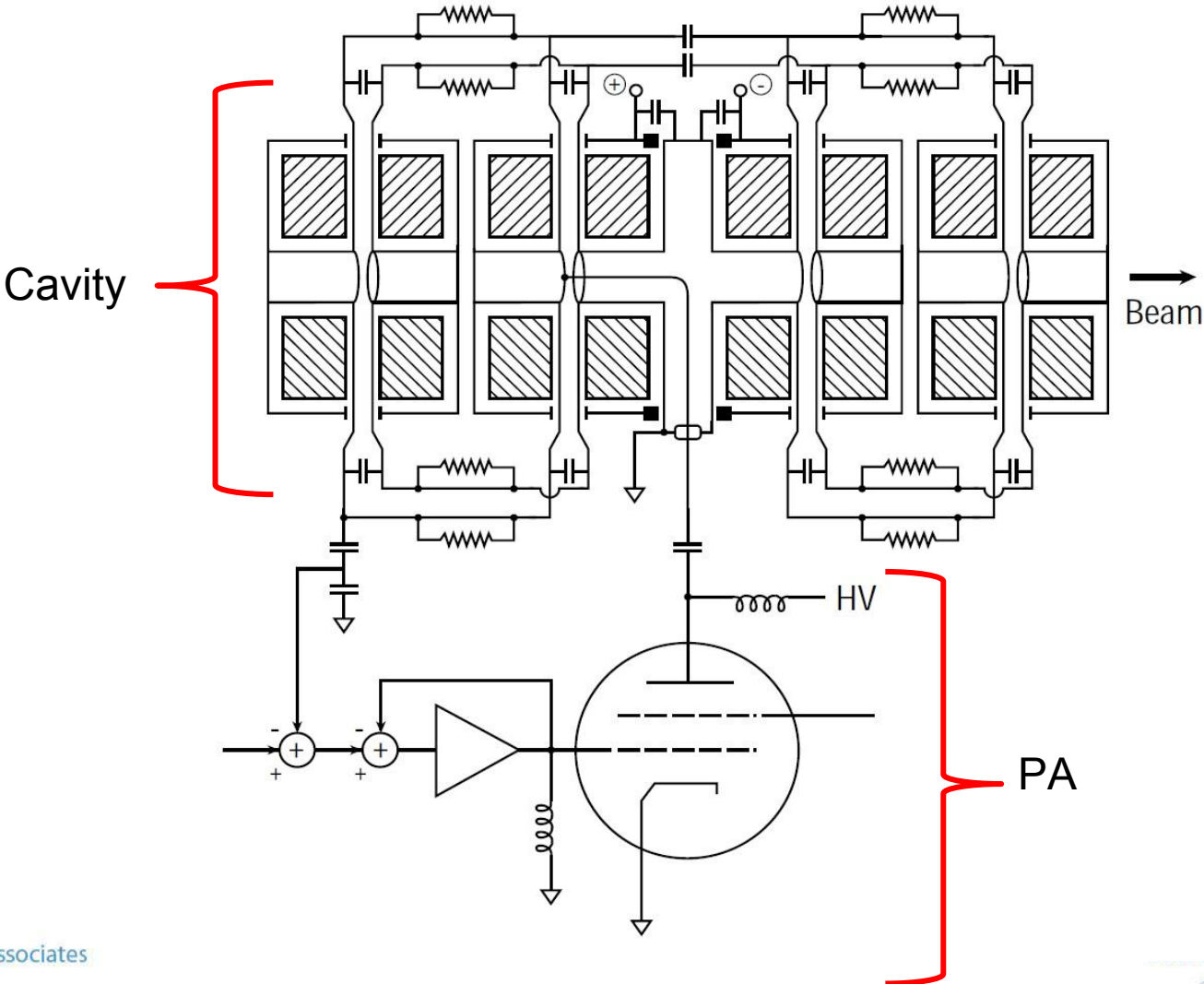


11 RF Systems (1.5 - 5 MHz)

AGS RF System



AGS PA and Cavity



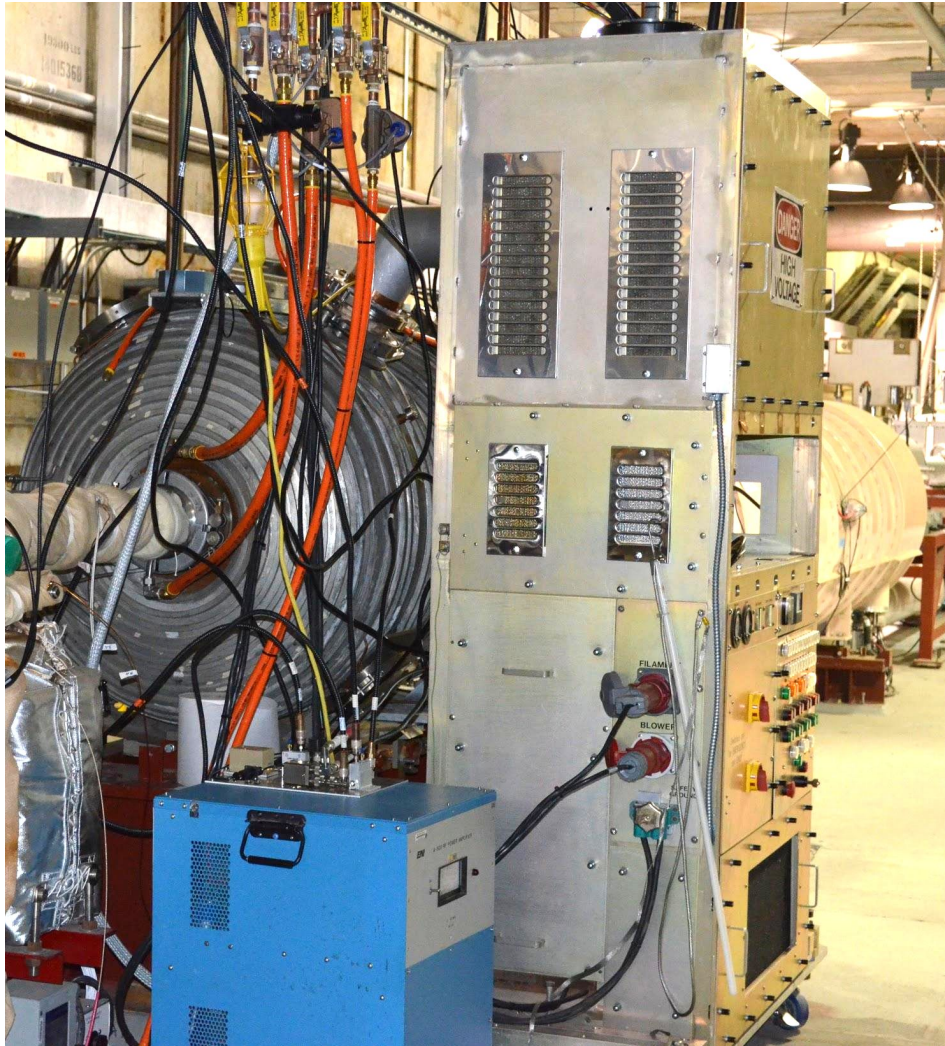
Relativistic Heavy Ion Collider



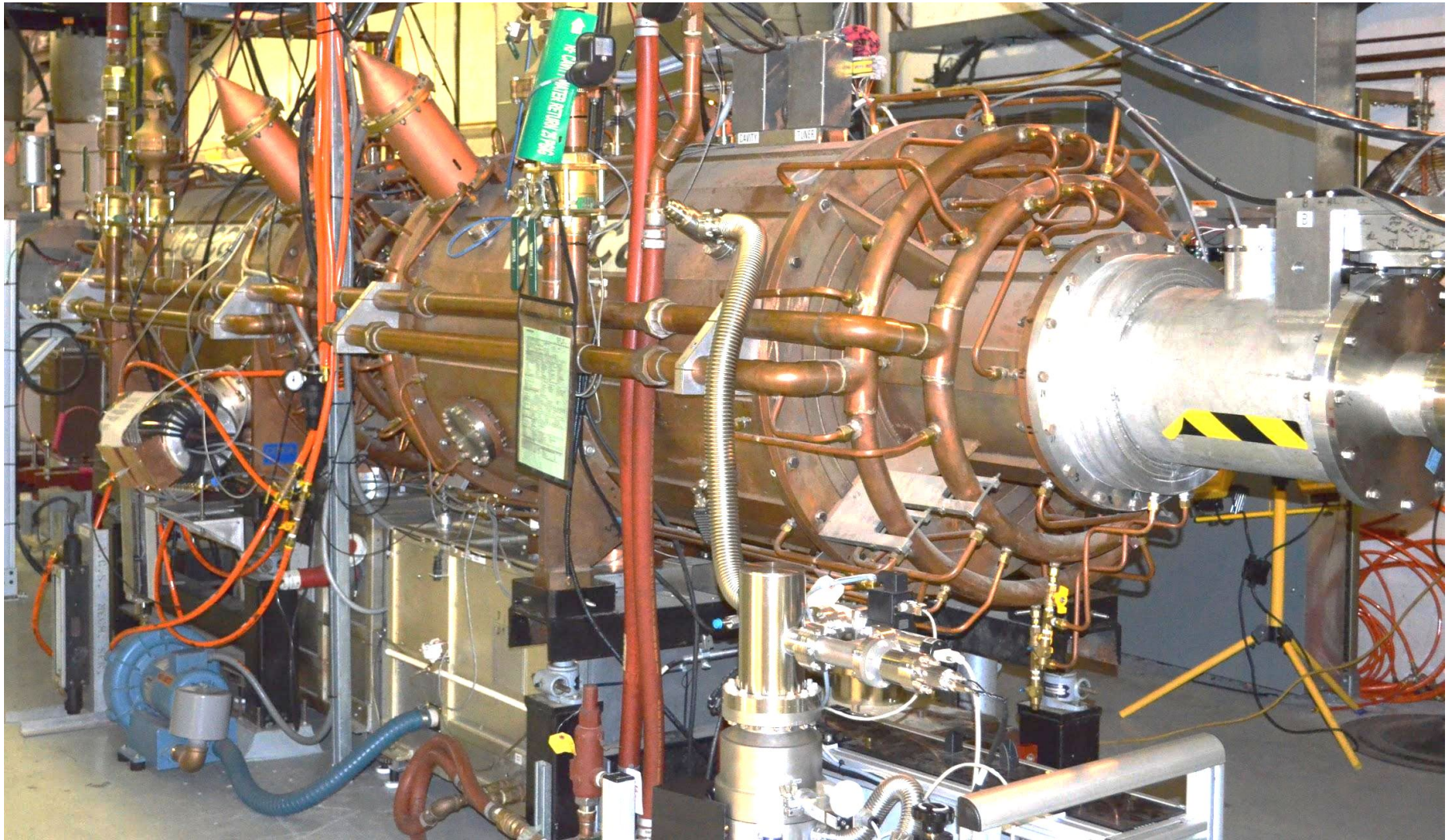
19 Operational RF Systems

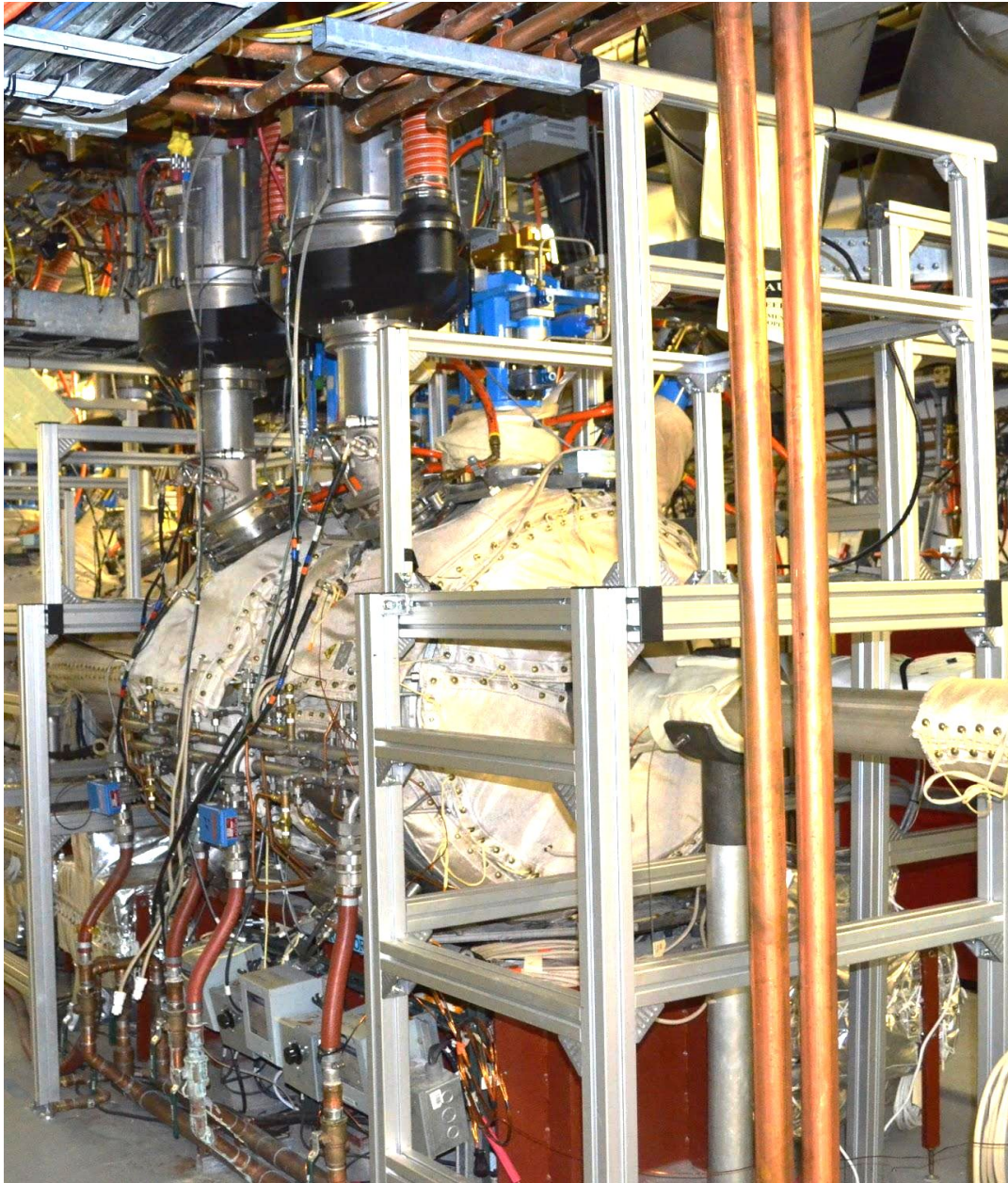
- 4 accelerator systems (28 MHz)
- 10 storage systems (197 MHz)
- 2 Landau systems (201 MHz)
- Common 9 MHz system
- Two 9 MHz bouncers

RHIC 9MHz Common System



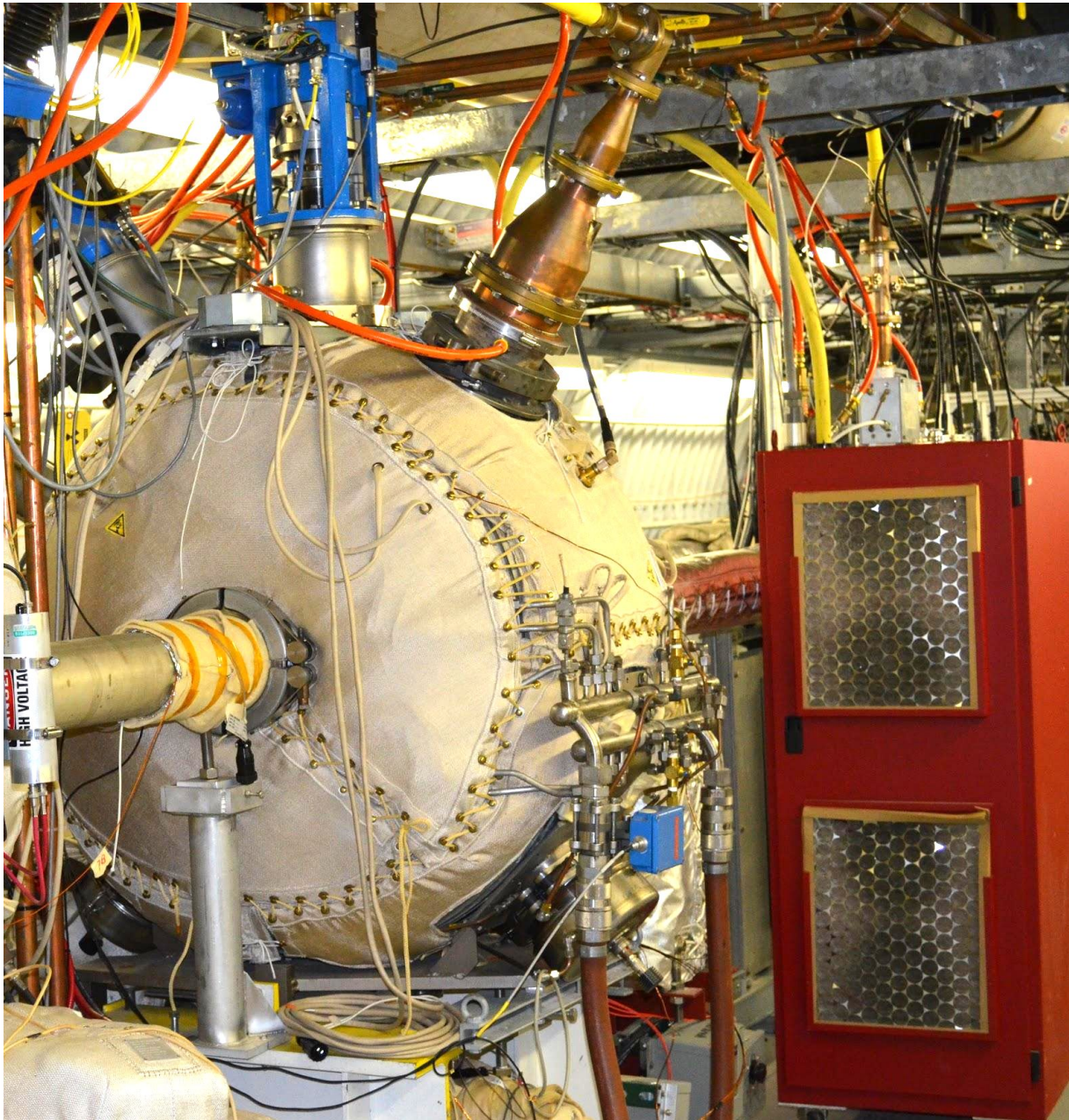
RHIC Accelerating System





RHIC Storage System

- 197 MHz
- 1 MV peak
- 90 kW Thales tetrode
- 2 kW solid state driver

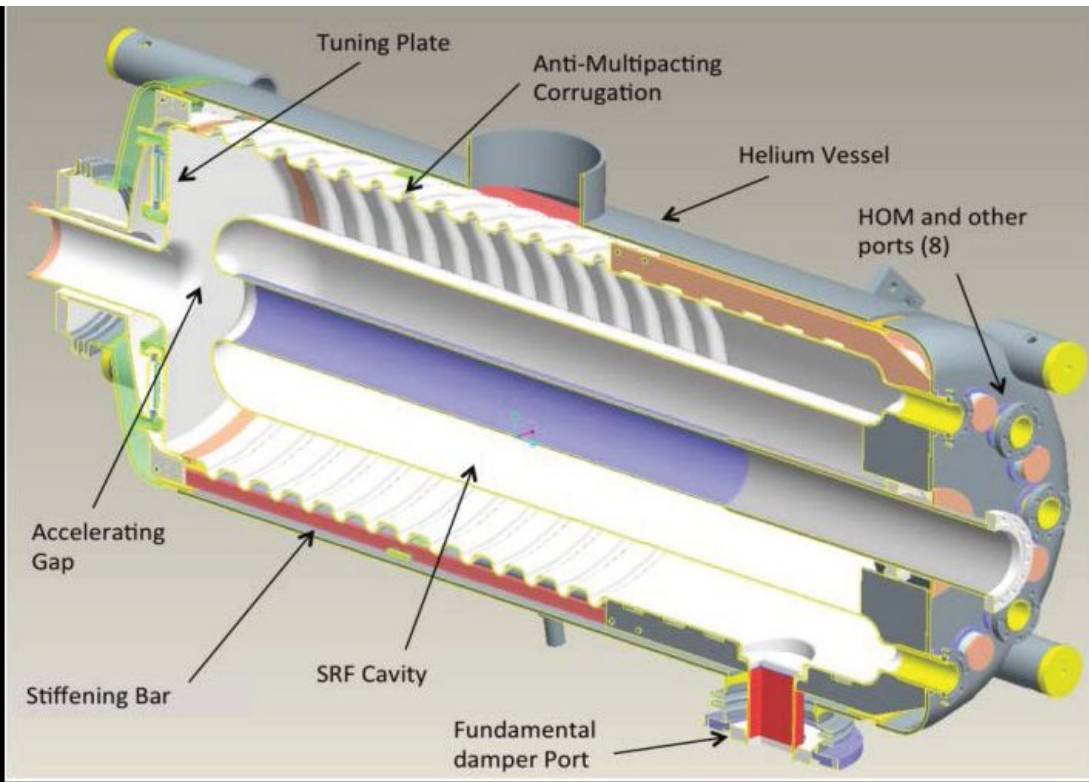


RHIC Landau System

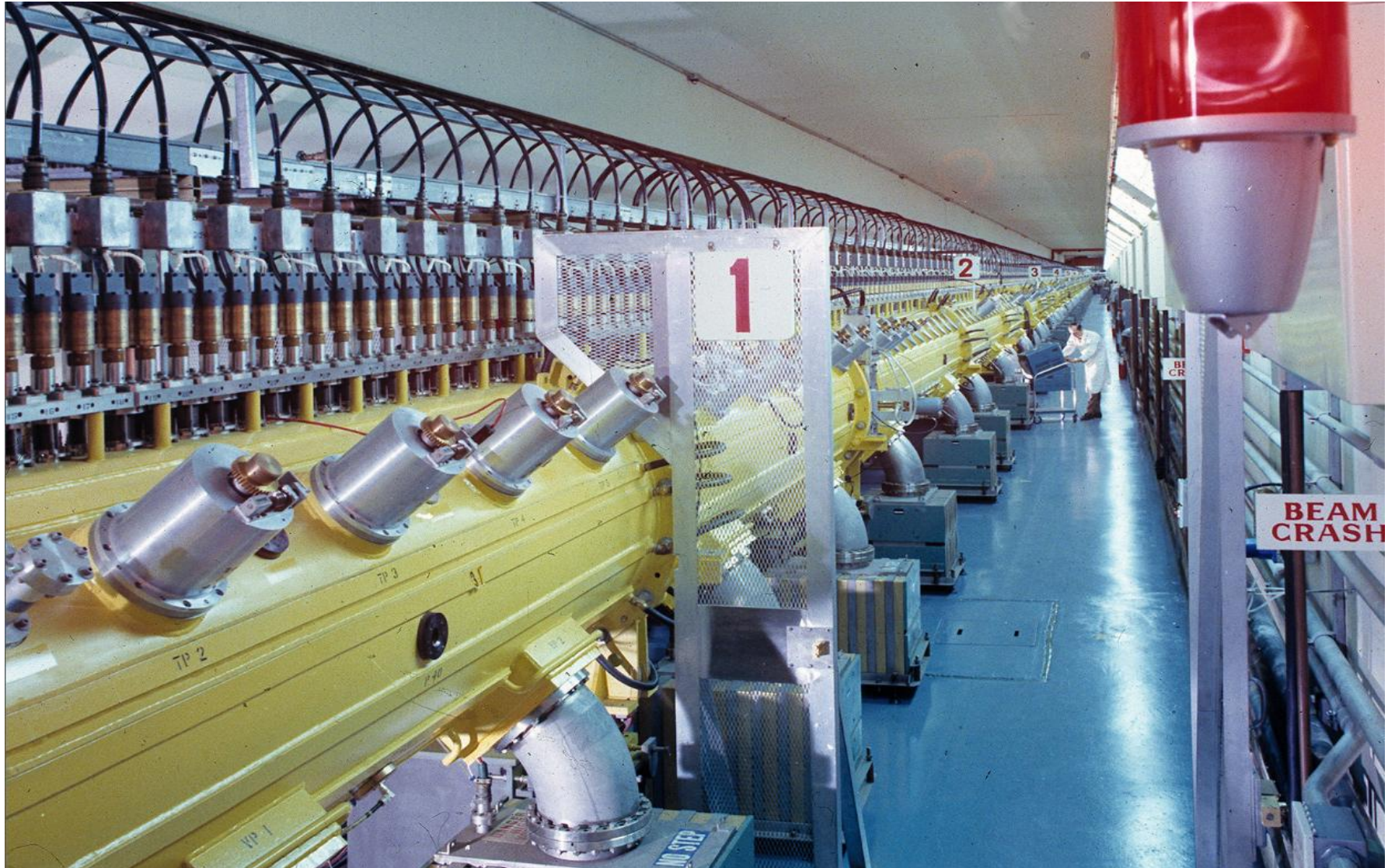
- 201 MHz
- 3 kW solid state driver

RHIC SRF Cavity

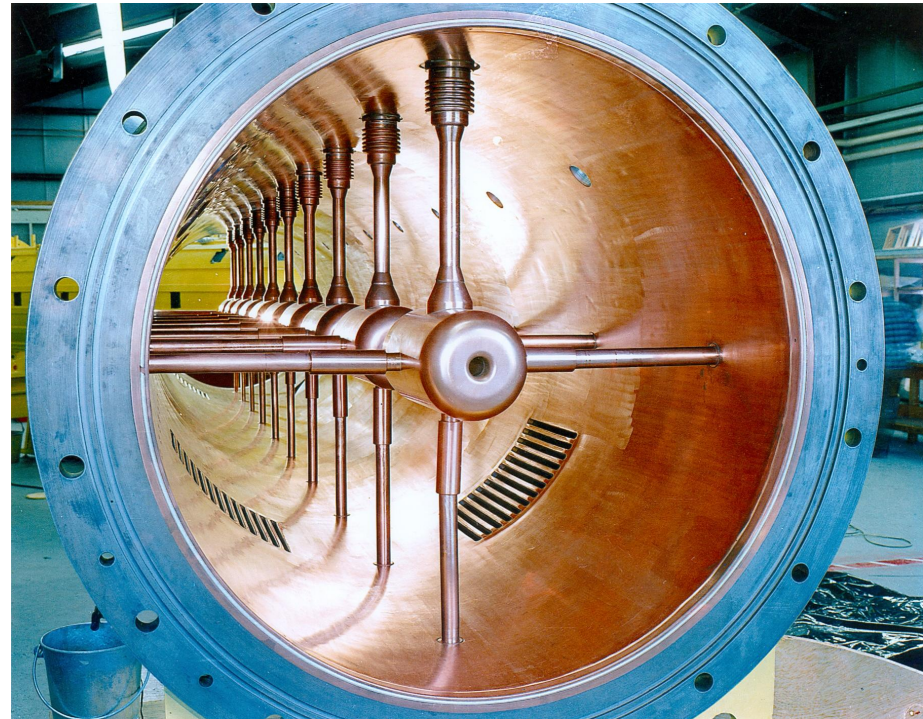
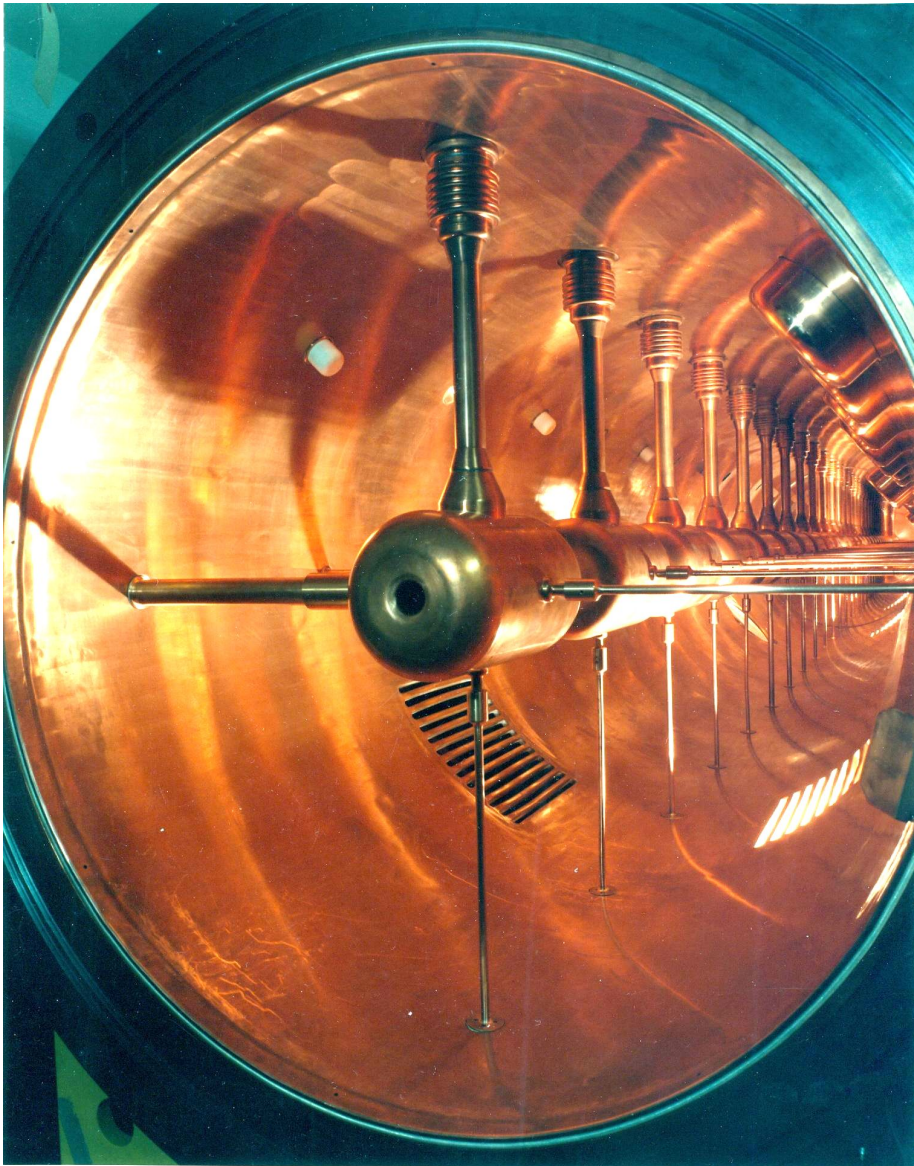
- Beam driven
- 56 MHz
- 2 MV peak
- 4 kW solid state driver



200 MeV Linear Accelerator



Linac Drift Tube Tank



Linac RF System

