Felsenkeller shallow-underground accelerator laboratory

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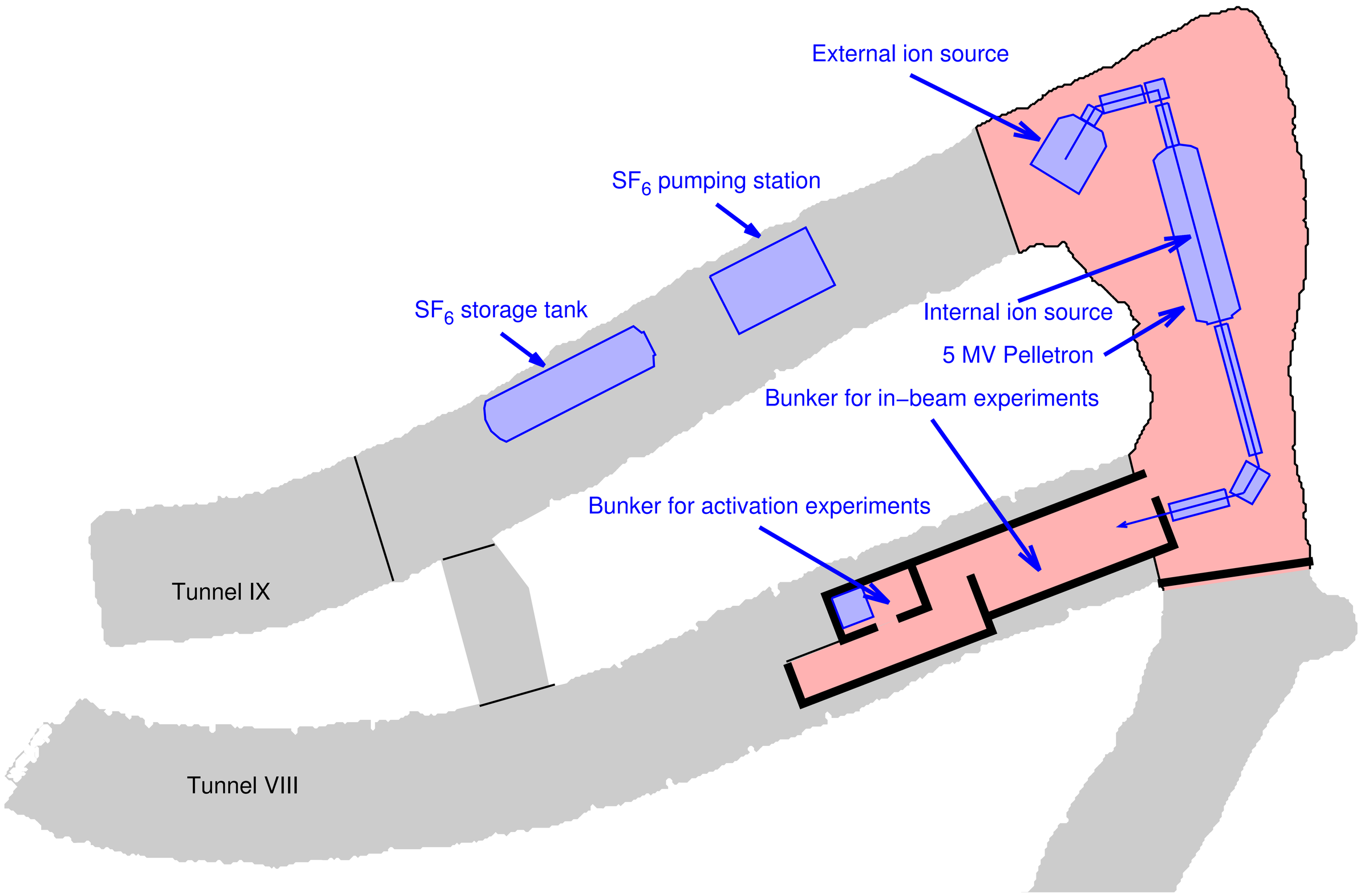


TU Dresden activity counting detector

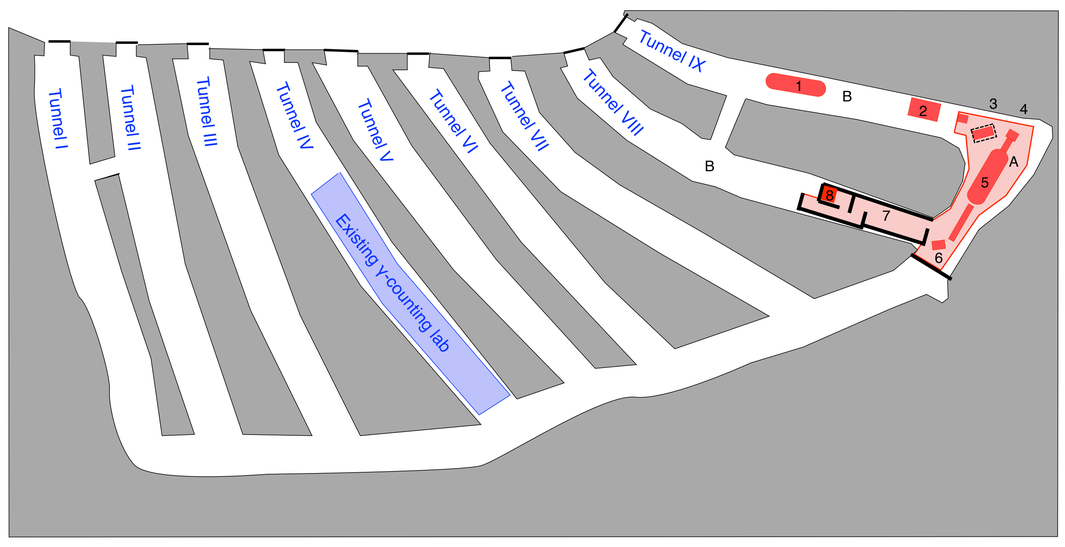
- 150% (relative efficiency) HPGe detector, including some X-ray sensitivity, with ultra low background specifications
- Shield of ultra-pure copper and low-^{210}Pb lead

HZDR Pelletron, expected ion beams

- ^{1}H 50 μA 0.3 – 3.0 MeV (limited due to radiation safety concerns)
- ^{4}He 50 μA 0.3 – 5.0 MeV
- ^{12}C 50 μA 1 – 10 MeV, 15 MeV for $^{12}C^{++}$

Overview of all nine tunnels

- VKTA activity-counting lab in tunnel IV
- New HZDR / TU Dresden facility in tunnel IX



Main characteristics of the accelerator

- 5 MV terminal voltage, NEC 15SDH-2 Pelletron
- Double charging chains, 300 μA upcharge current
- Two high voltage stabilization systems:
  Generating Voltmeter and Corona Probe
- Internal ion source on the high voltage terminal for ^{1}H and ^{4}He beams, tested up to 90 μA - Made by NEC, installed by HZDR on HV terminal
- External sputter ion source made by NEC, SNICS-134, specified for 100 μA C^- beams after the ion source
- Control of accelerator and experiments from surface rooms
- Unattended mode running overnight
- Irradiation room accessible also when the beam is on