

Electrodeposition experiments with hassium

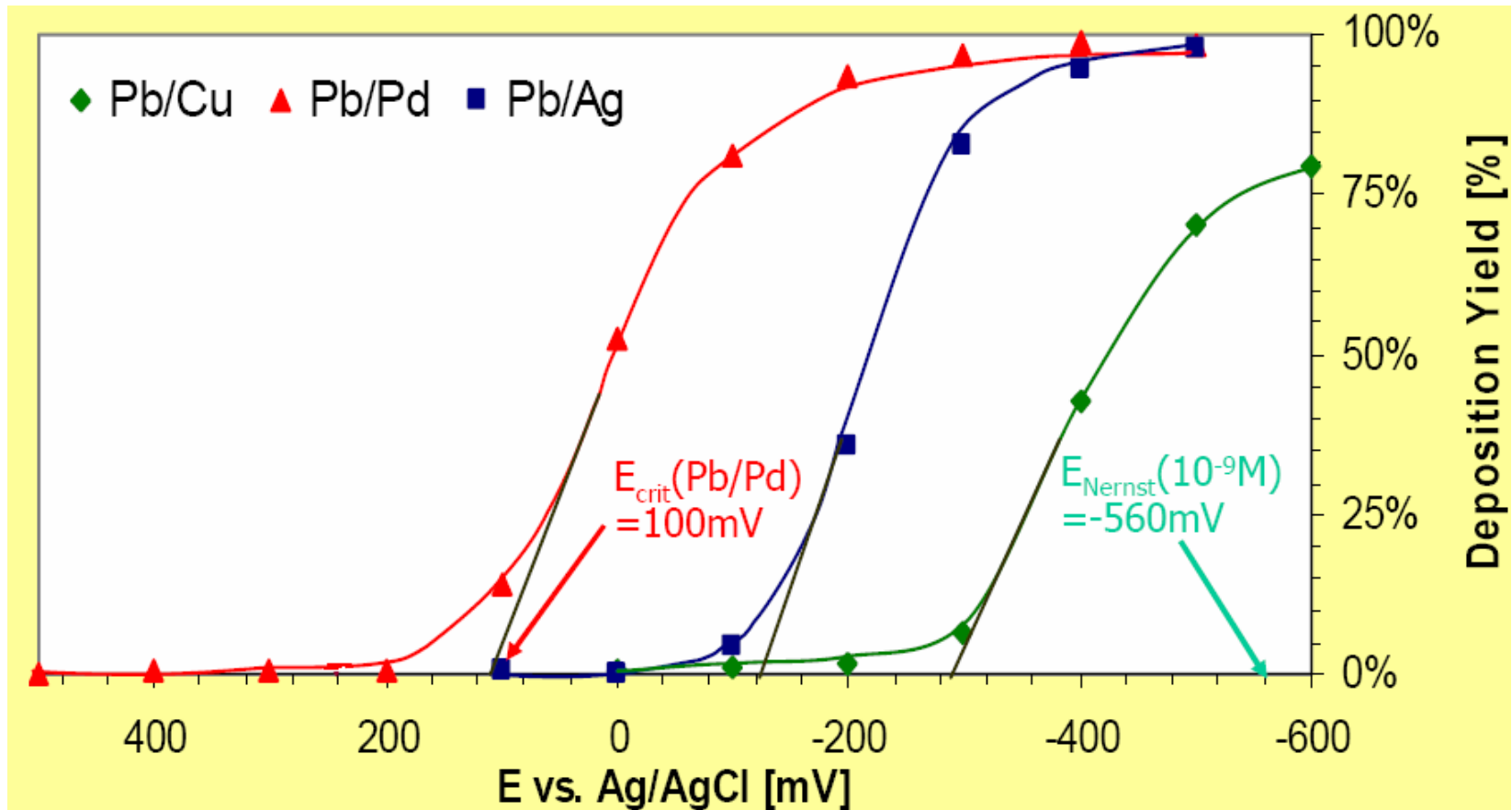
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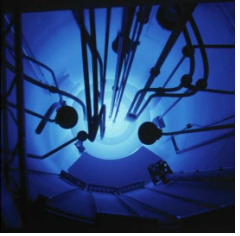
TASCA 08
7th Workshop on
Recoil Separator for Superheavy Element Chemistry
October 31, 2008, GSI, Darmstadt, Germany



Underpotential deposition

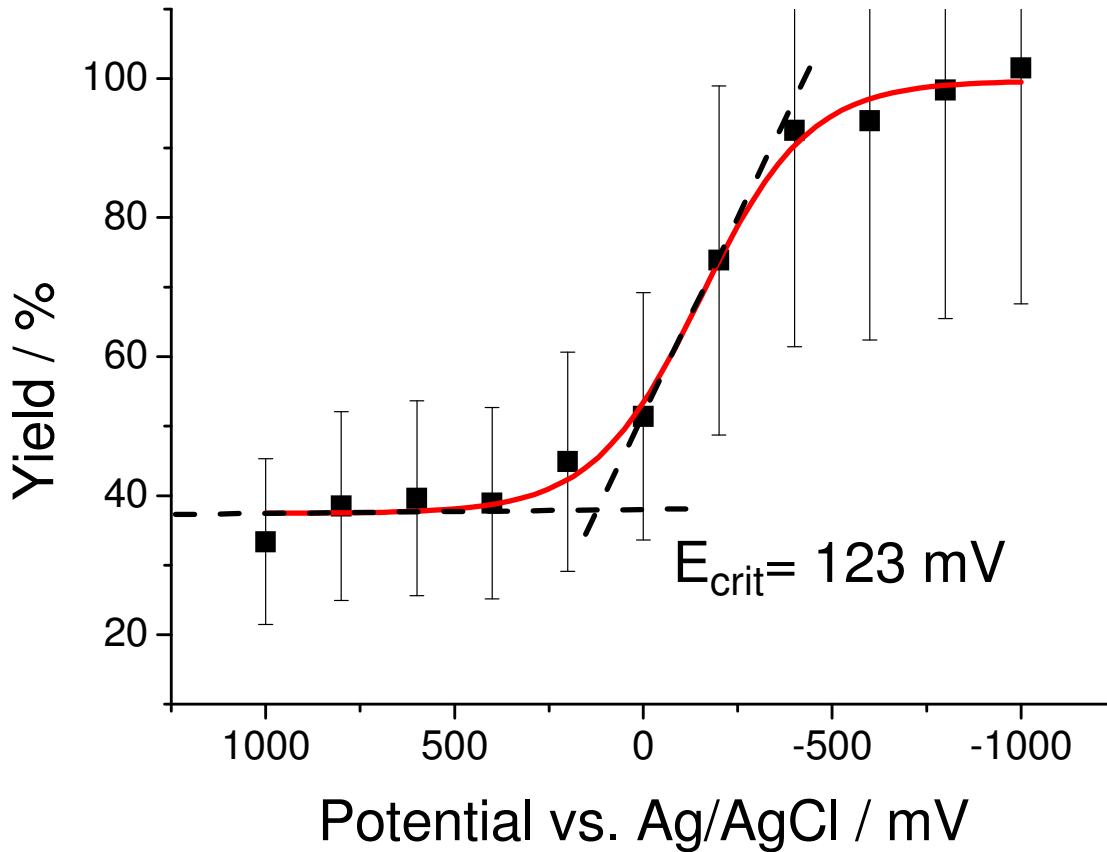


Deposition of ^{212}Pb on Pd, Ag and Cu from 0.1 M HClO_4



Deposition of Osmium

$\text{natCe}(^{40}\text{Ar}, xn) \sim ^{176}\text{Os}$
at TASCA



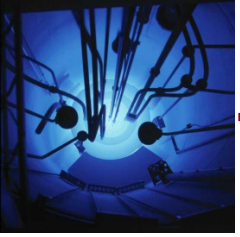
Conditions:

palladinated Ni electrodes

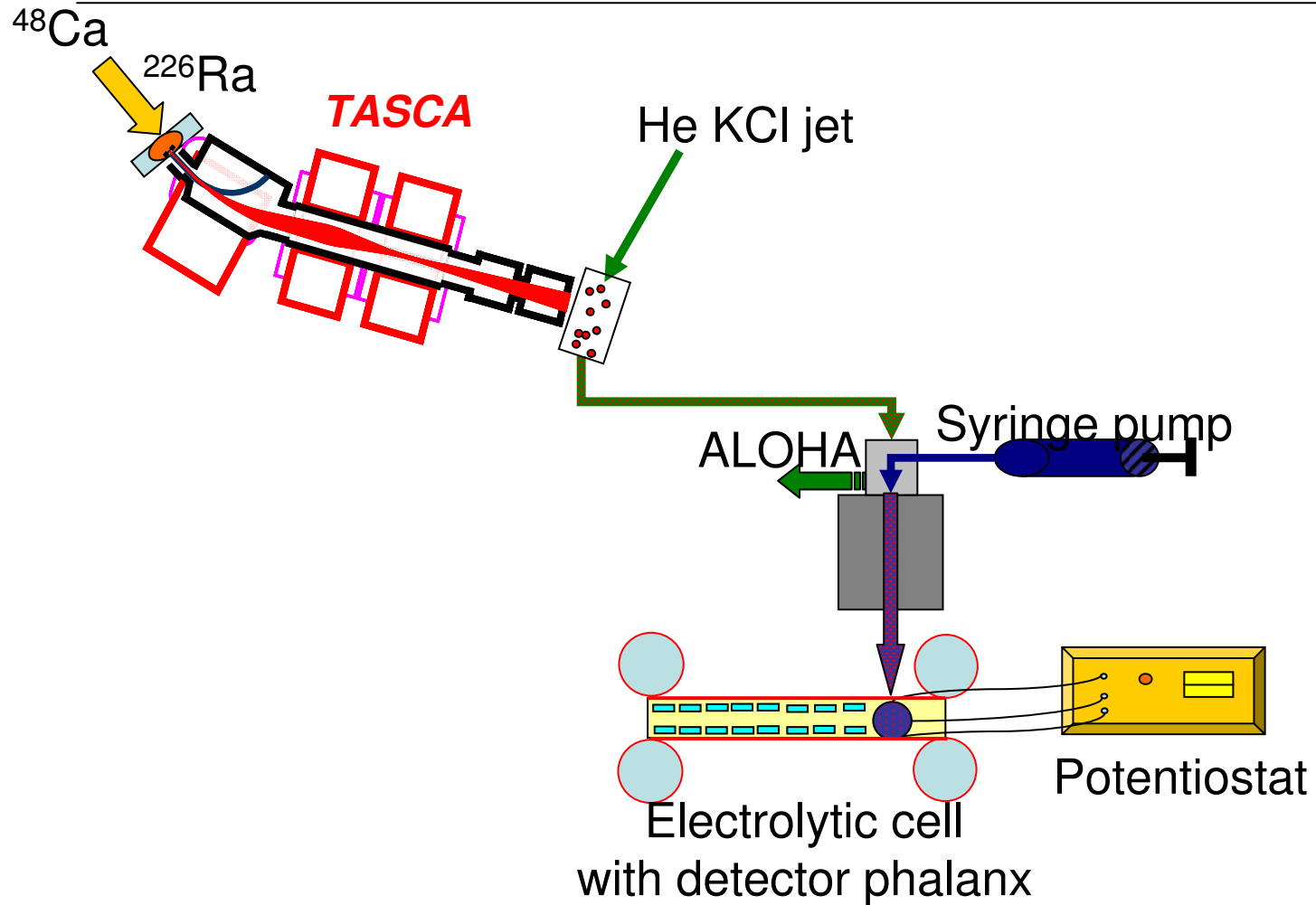
0.1 M HCl

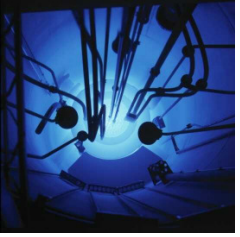
71 °C

2 min

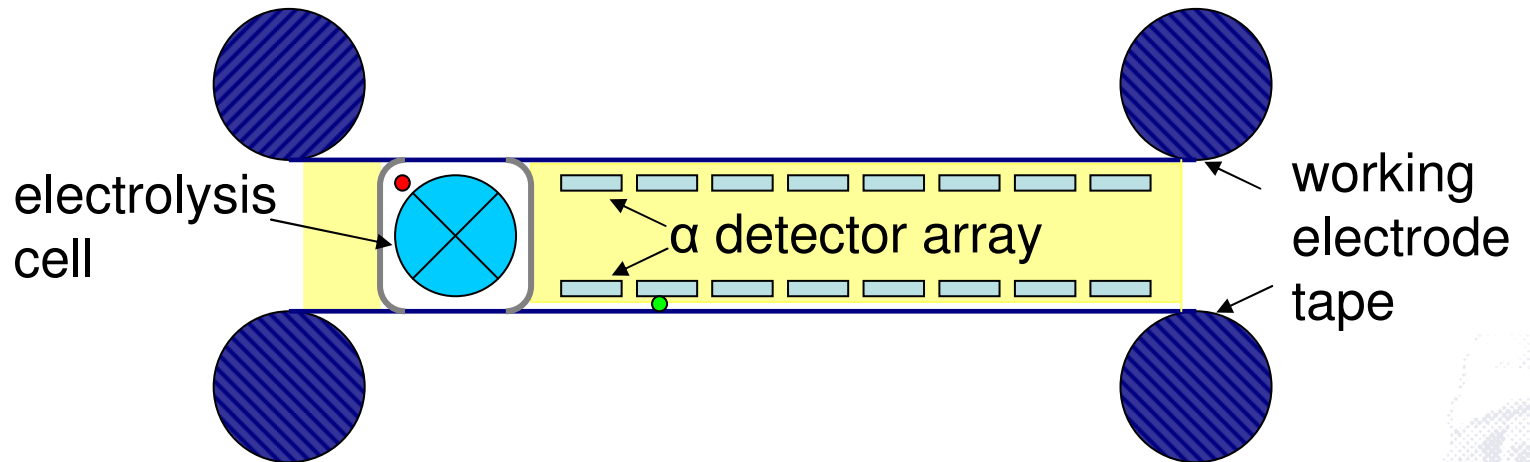
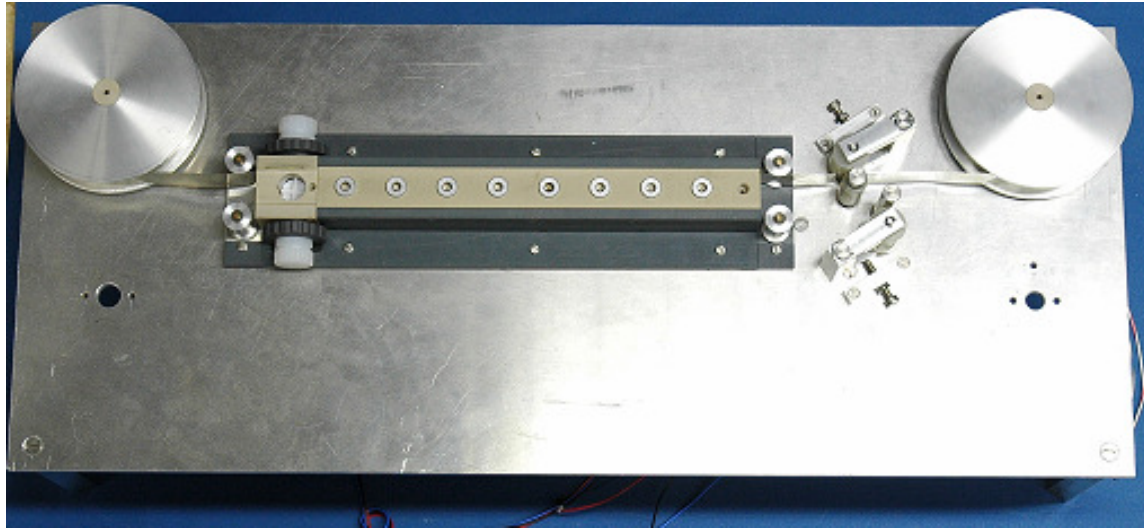


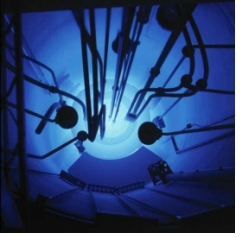
Technical description of the experiment



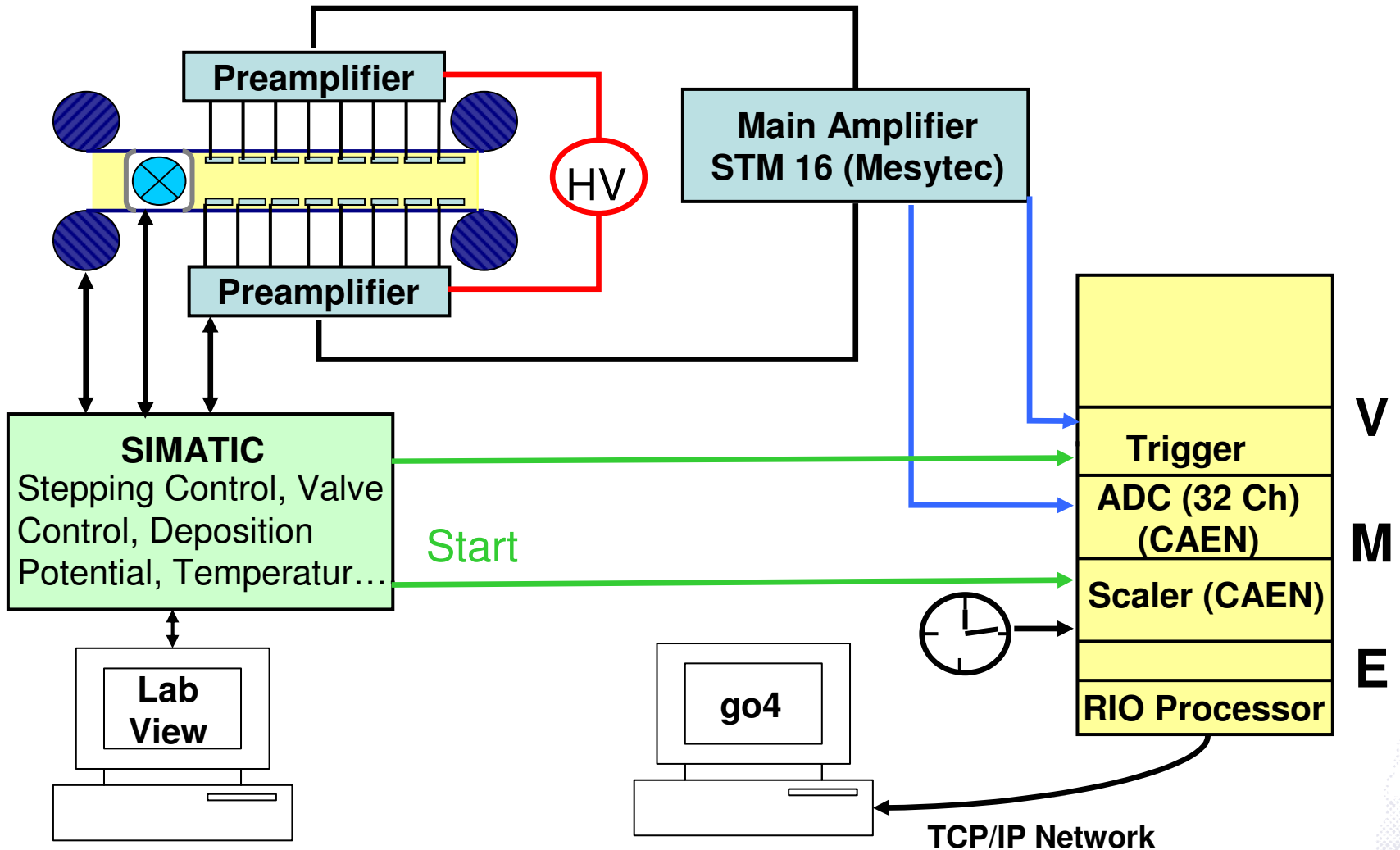


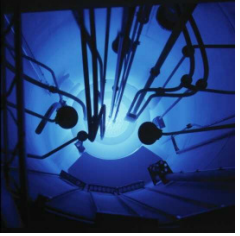
The automated electrolytic cell





Electronics

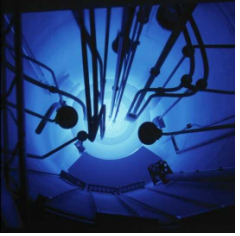




Beamtimes needed

- 2009: 2 beamtimes ${}^{\text{nat}}\text{Ce}({}^{40}\text{Ar}, \text{xn})^{172-174}\text{Os}$ à 3·24 h (1 parasitic, 1 main beam; proposal U182)
- 2010: perhaps 1-2 Os beamtimes (main beam; proposal U182)
32 days ${}^{226}\text{Ra}({}^{48}\text{Ca}, 4\text{n})^{270}\text{Hs}$ (main beam)
- 2011: 2 times 32 days ${}^{226}\text{Ra}({}^{48}\text{Ca}, 4\text{n})^{270}\text{Hs}$ (main beam) to run the experiment at different electrode potentials





Collaboration partners are welcome

- We would like to invite for a collaboration the nuclear chemistry groups at the GSI and at the TUM!
- All other interested groups are welcome to join us!

