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# Electrodeposition experiments with hassium

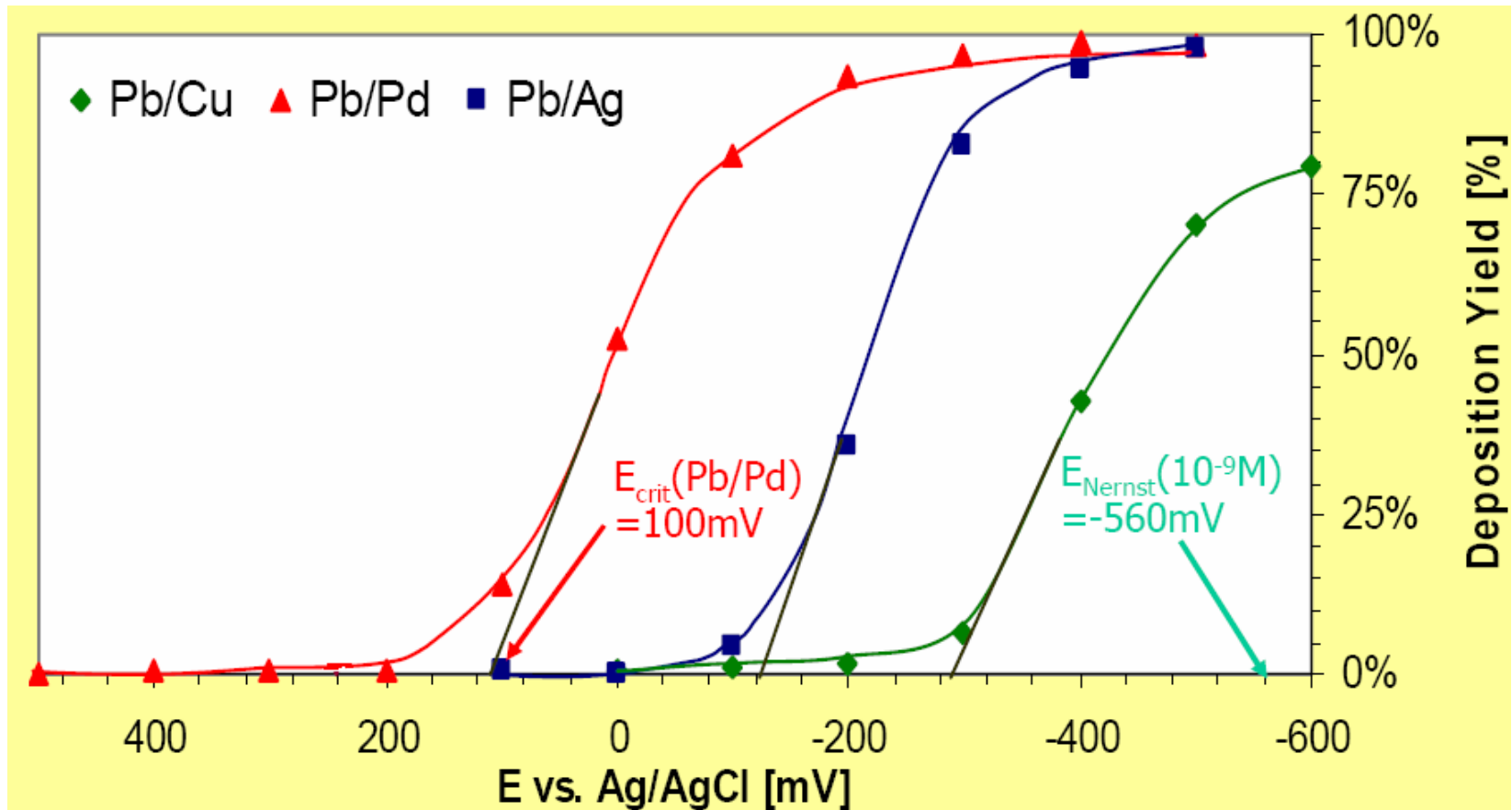
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Johannes Gutenberg-Universität Mainz

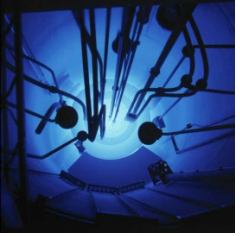
TASCA 08  
7th Workshop on  
Recoil Separator for Superheavy Element Chemistry  
October 31, 2008, GSI, Darmstadt, Germany



# Underpotential deposition

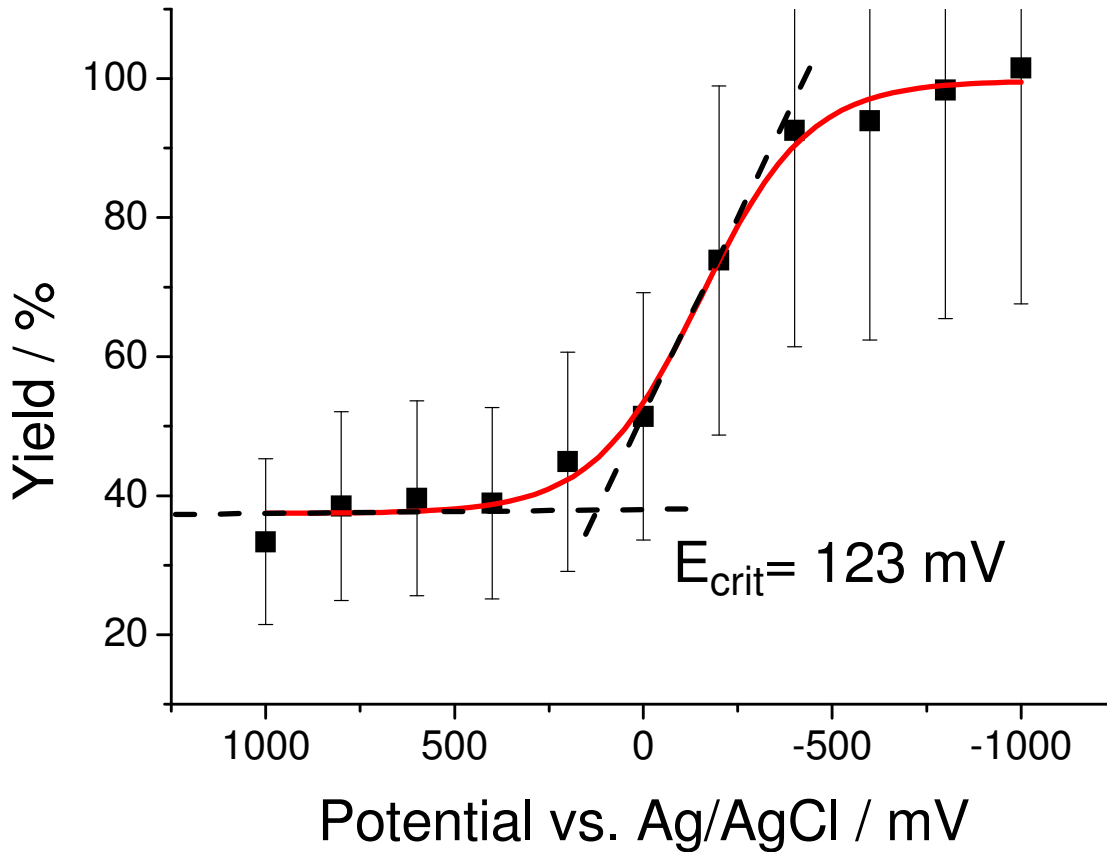


Deposition of  $^{212}\text{Pb}$  on Pd, Ag and Cu from 0.1 M  $\text{HClO}_4$



# Deposition of Osmium

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



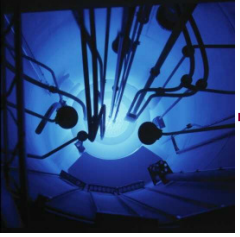
Conditions:

palladinated Ni electrodes

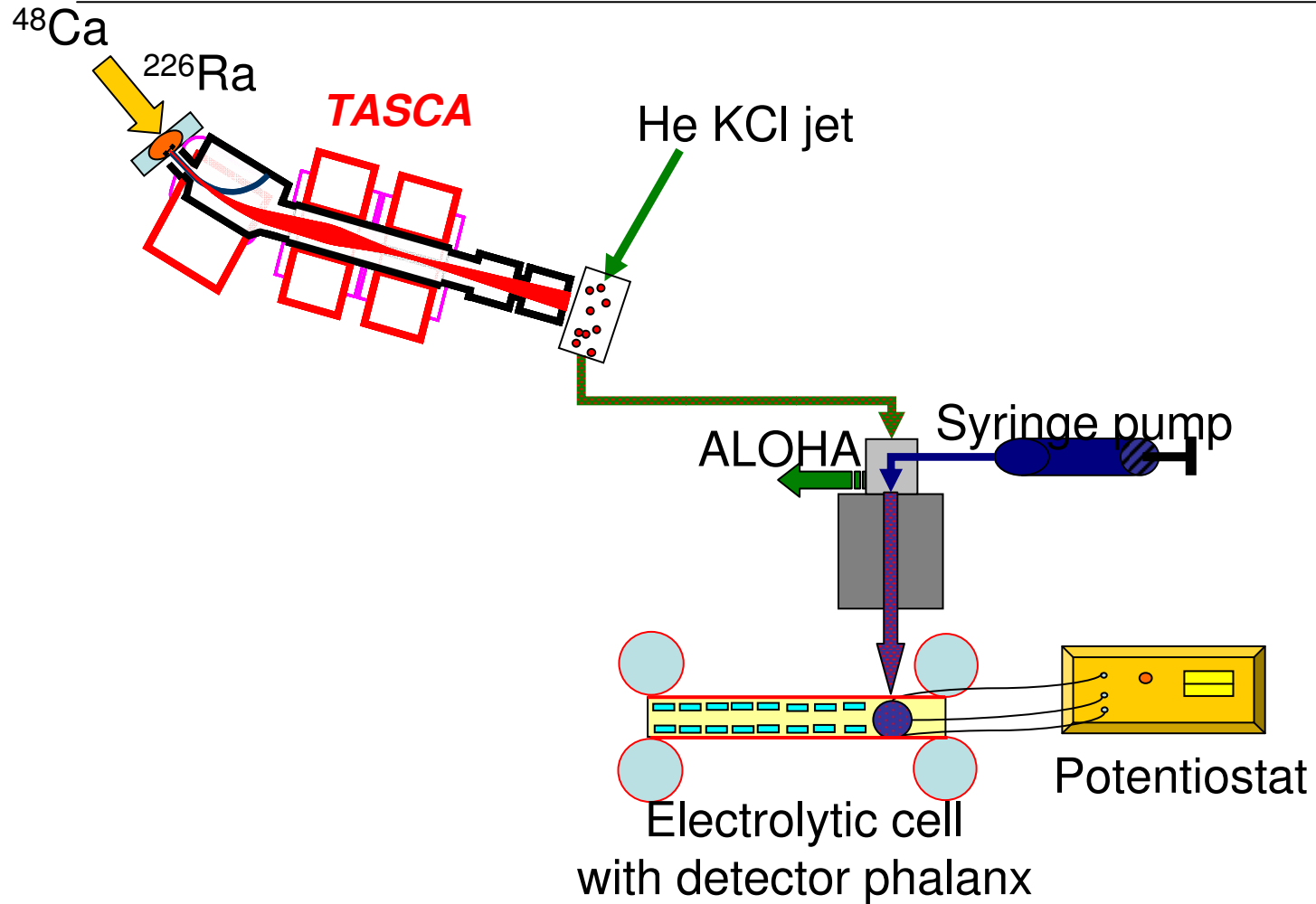
0.1 M HCl

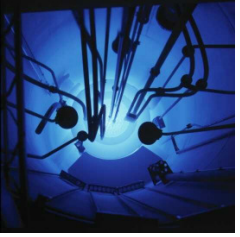
71 °C

2 min

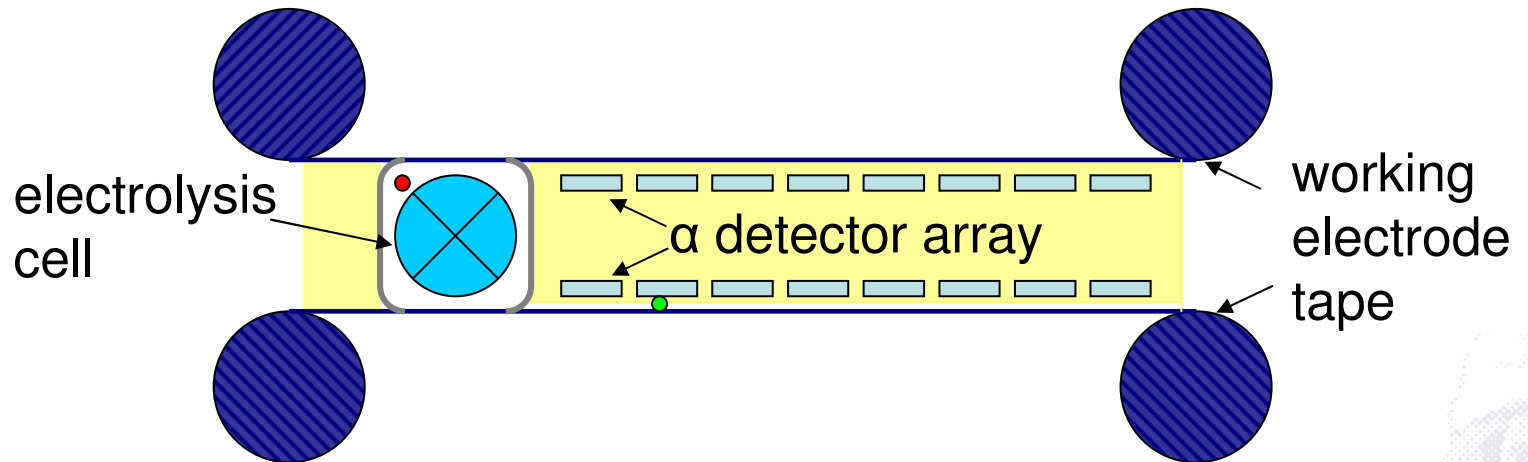
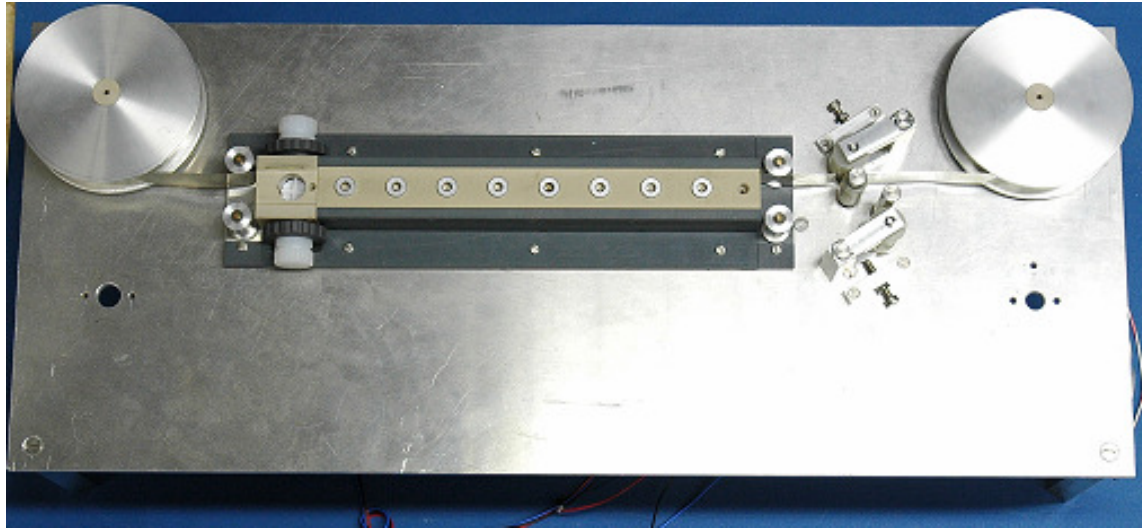


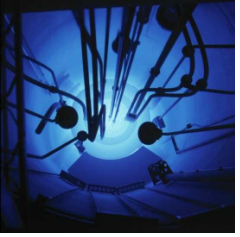
# Technical description of the experiment



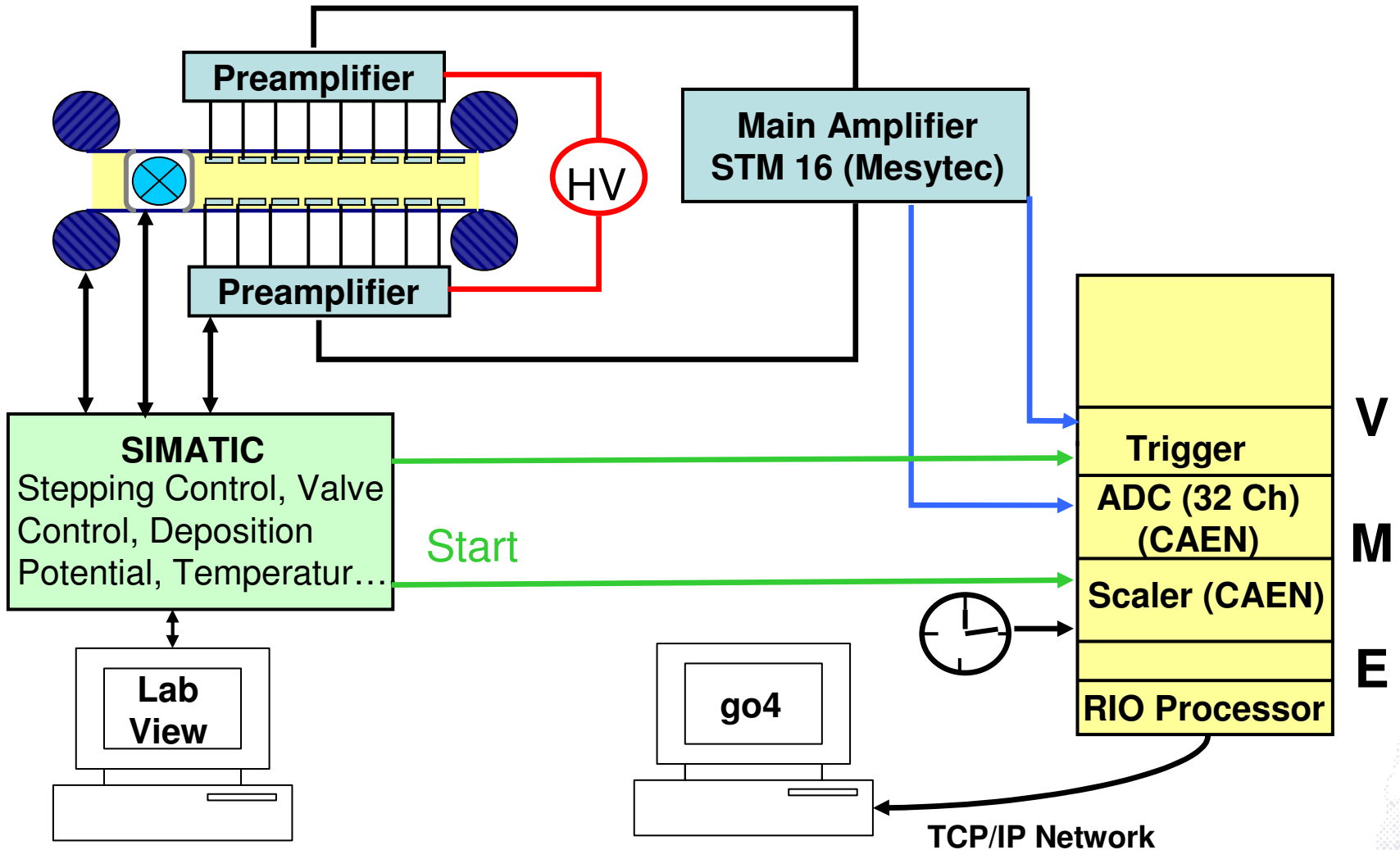


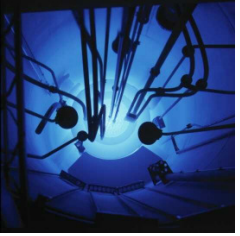
# The automated electrolytic cell





# Electronics



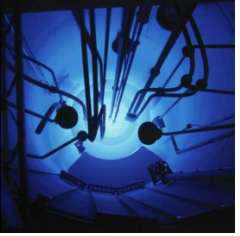


# Beamtimes needed

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- 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

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- 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!

