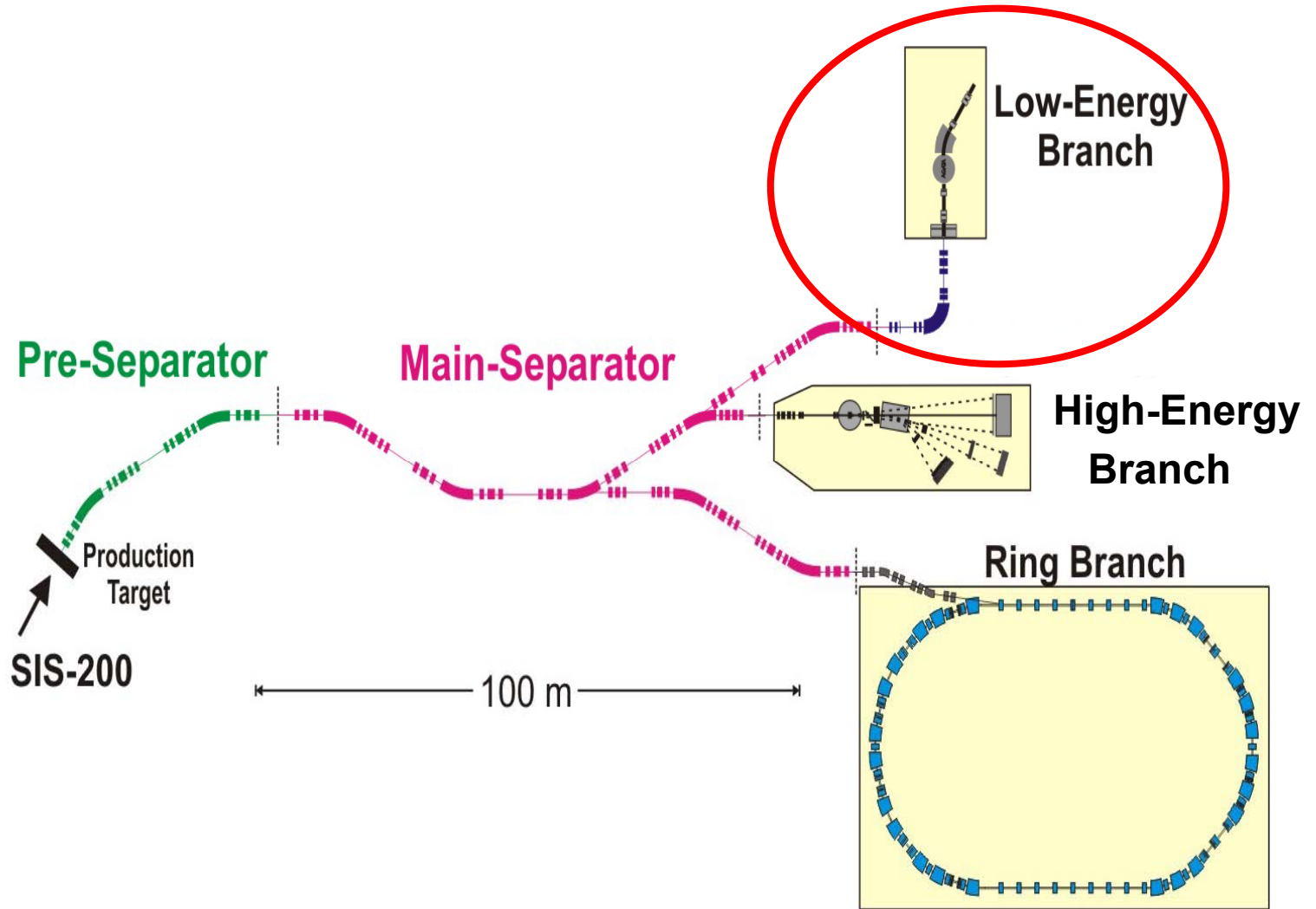


**Beta and particle decay spectroscopy
at
the Super FRS**

Zenon Janas

**Nuclear Spectroscopy Division
Warsaw University**

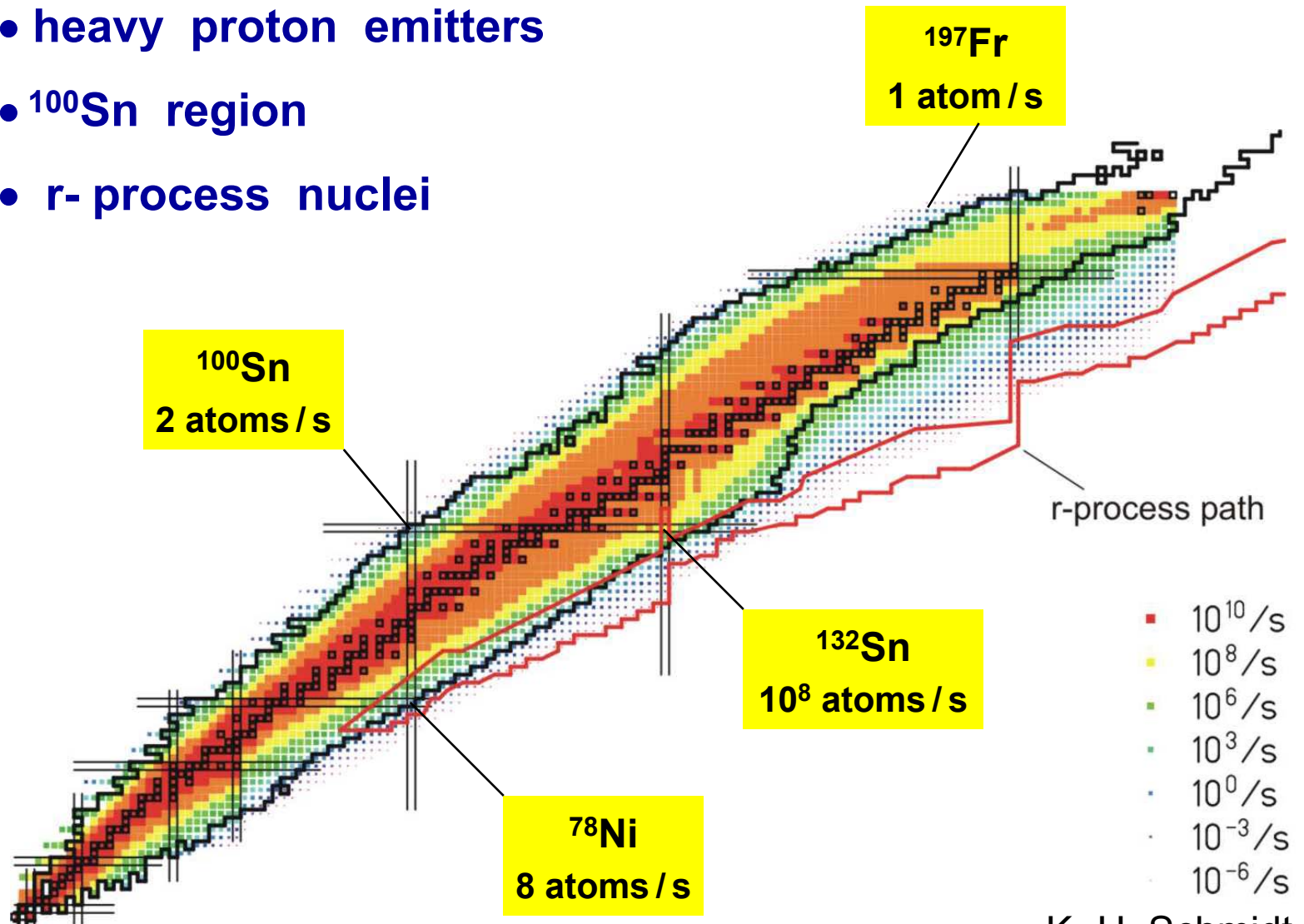
Branches of the Super FRS



H. Weick, M. Winkler

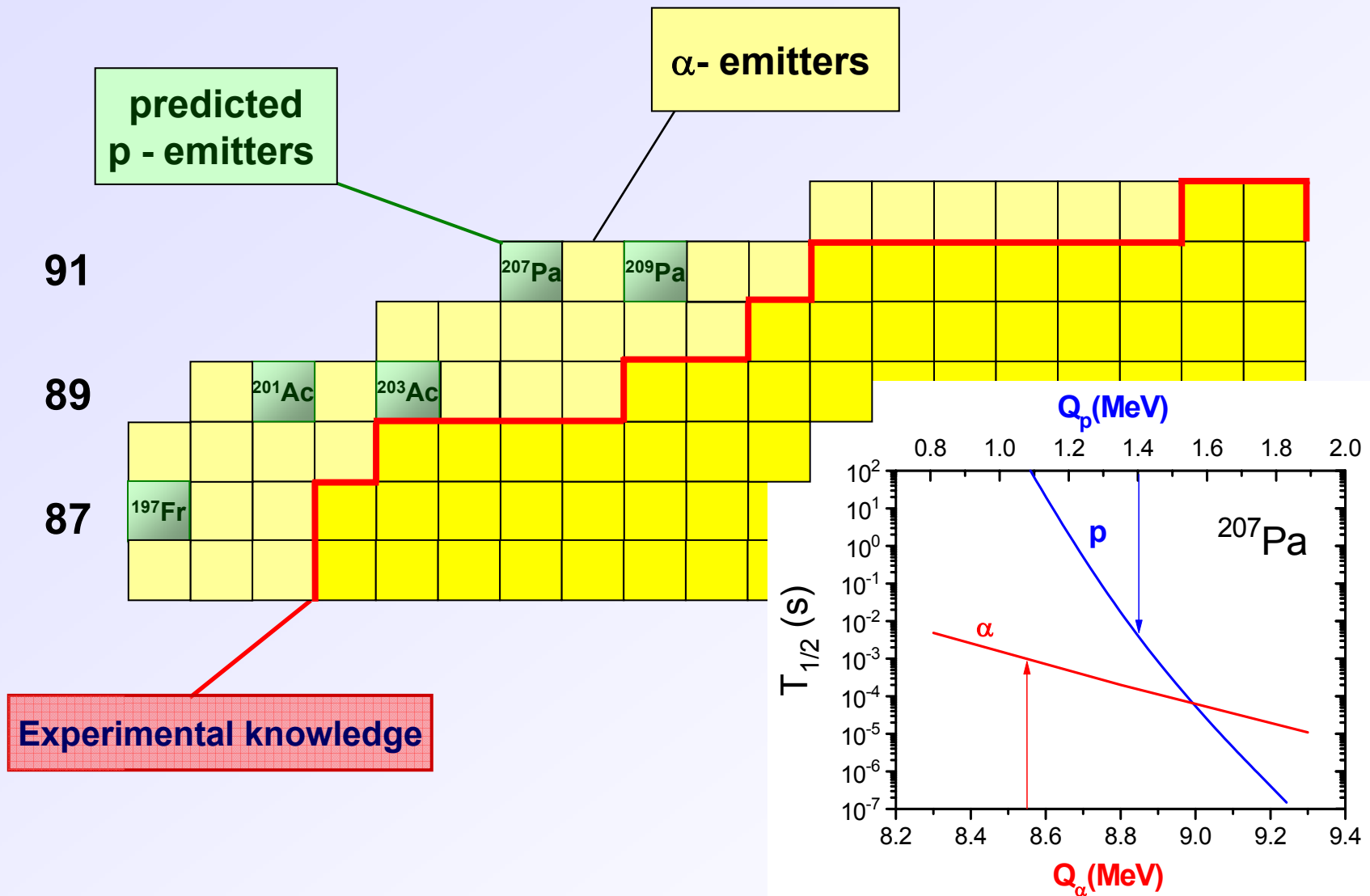
Regions of interest

- heavy proton emitters
- ^{100}Sn region
- r-process nuclei



K.-H. Schmidt

Heavy proton emitters



Detection of fast p and α decays

implantation



range focusing

position correlation

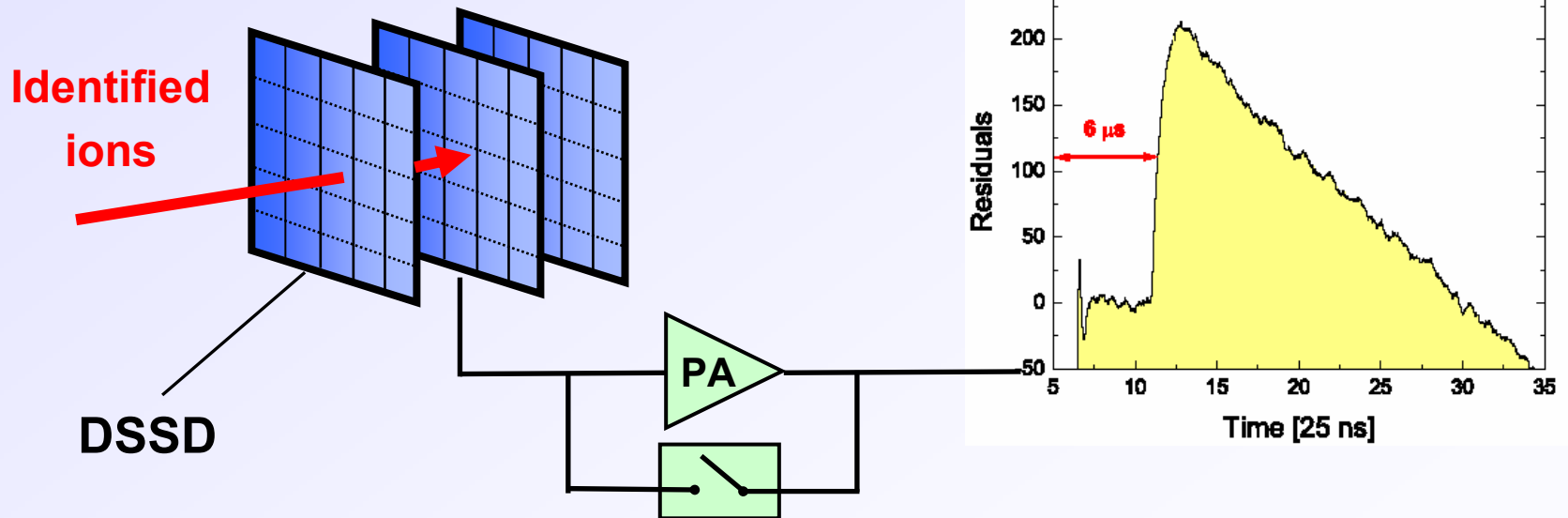


high granularity

time correlation

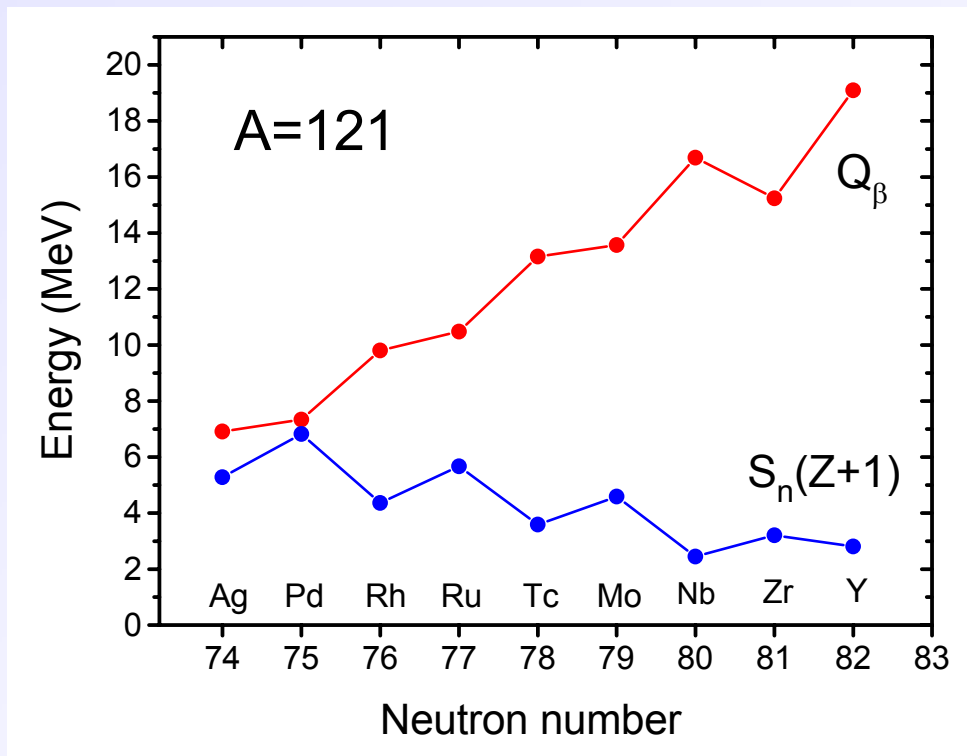


dedicated electronics

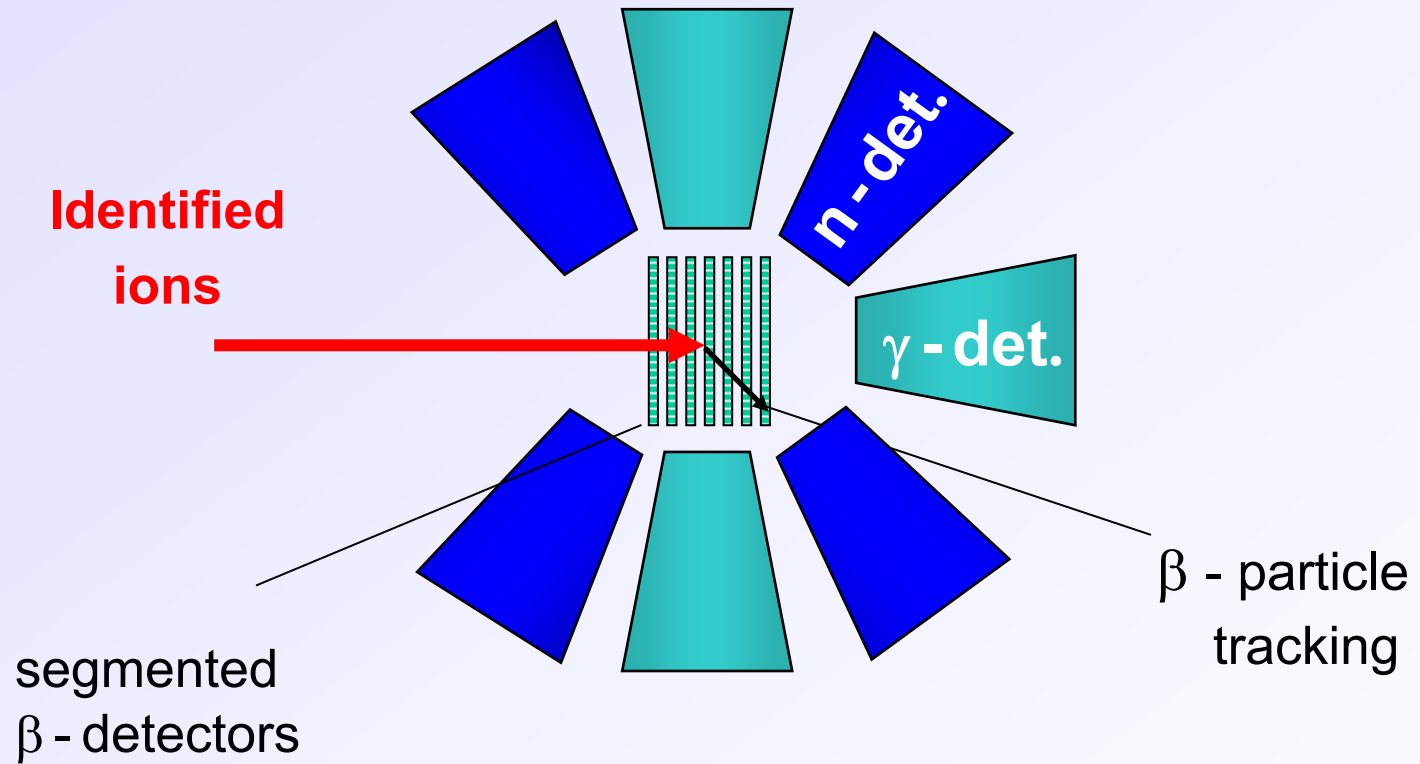


Studies of r - process nuclei

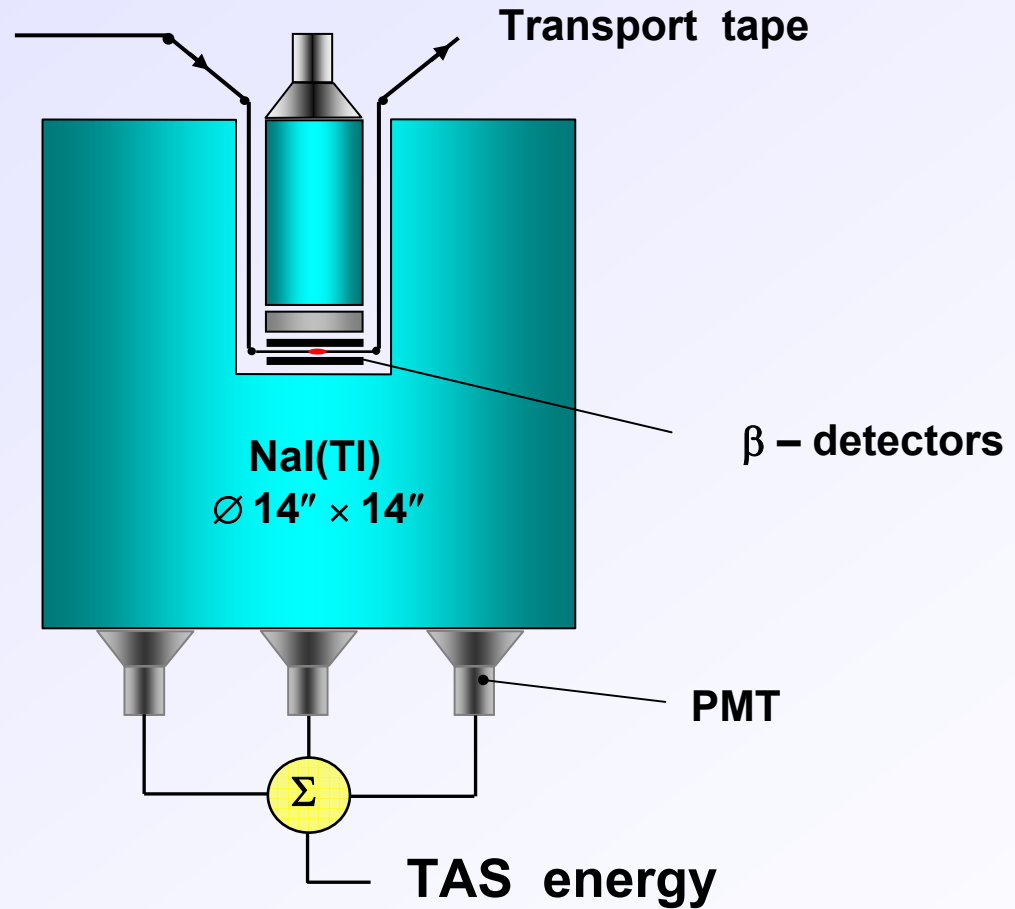
- masses (Q_β , S_n)
 - β - decay halflives
 - βn emission probabilities
- } β - strength distribution



High - resolution βn and $\beta\gamma$ -ray measurements

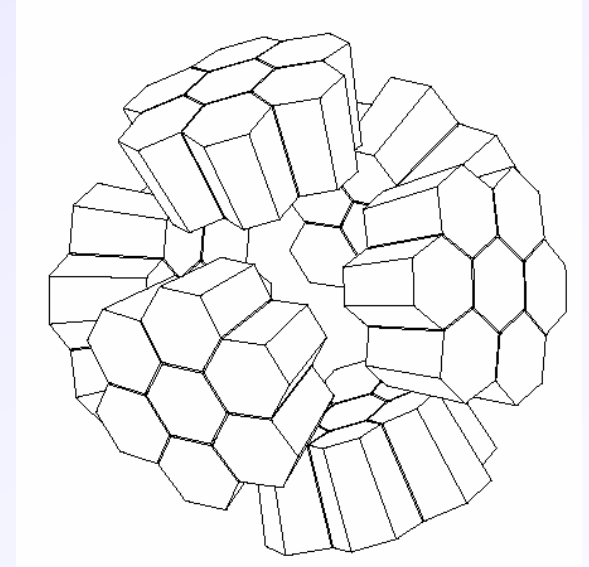
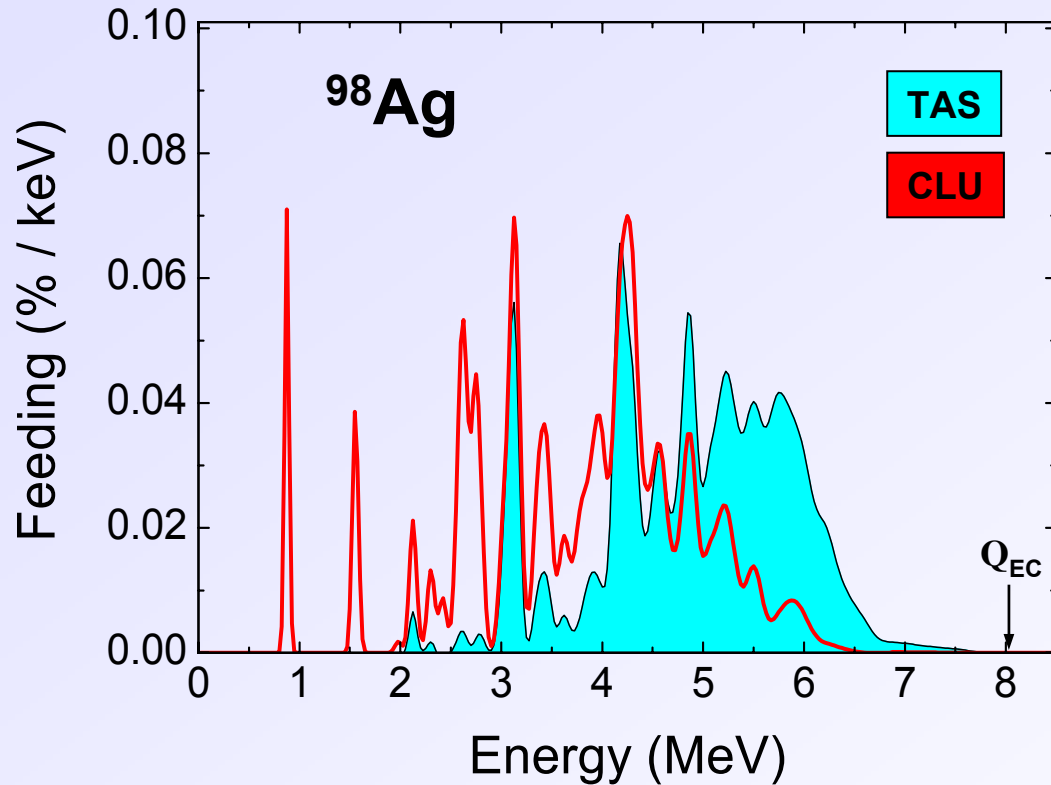


Total Absorption Spectrometer



$\epsilon_{\text{ph}} = 70\%$ at 1 MeV

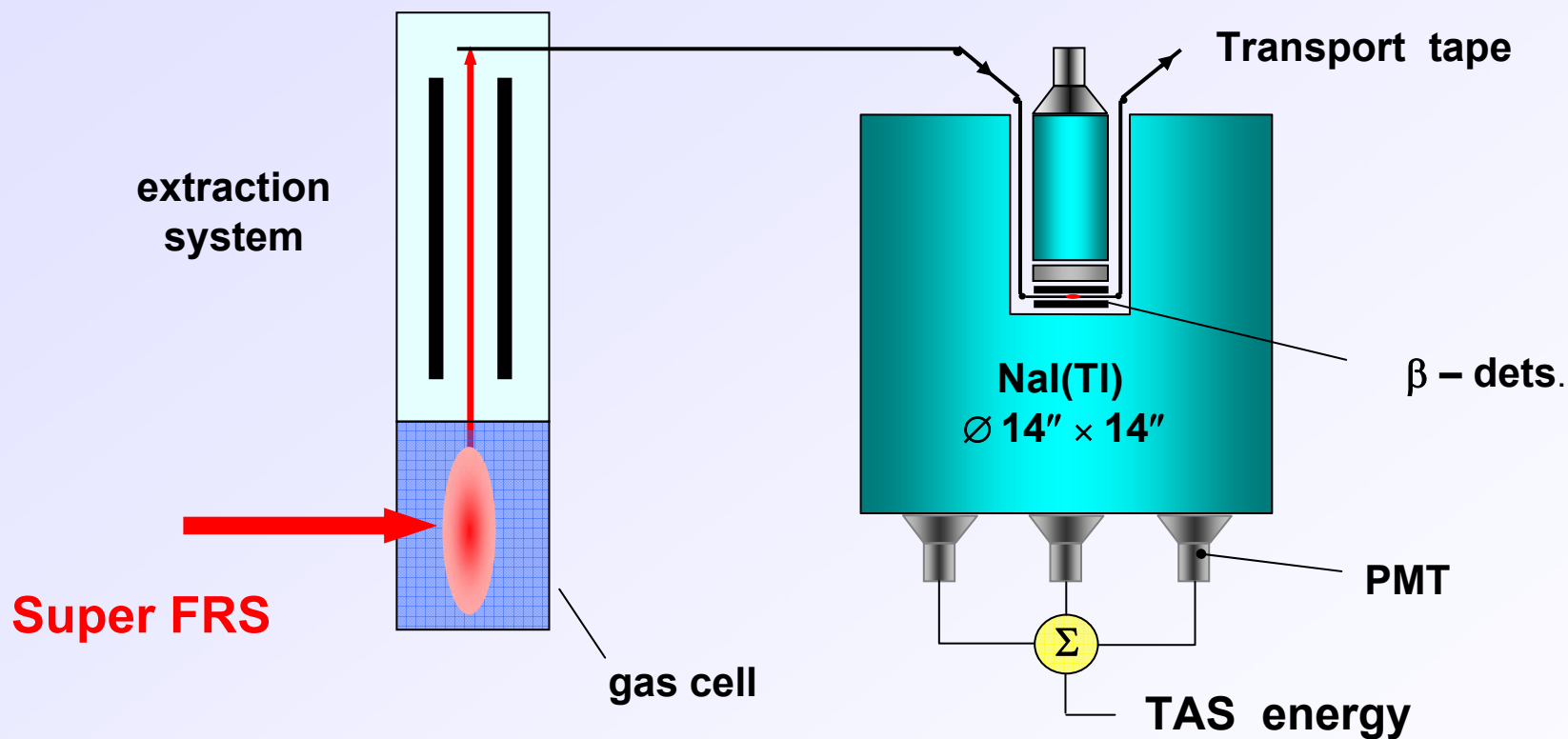
Total absorption vs. high-resolution measurements



6 × Cluster detectors

$\varepsilon_{\gamma} = 19\%$ at 1.3 MeV

Total Absorption Spectroscopy at Super FRS



Possible contribution of the Warsaw group

- **setup for μs - decay studies**
 - dedicated preamplifiers
 - digital signal processing
- **setup for Total Abs. Spectroscopy measurements**
- **ion catcher (EU RTD Network)**
 - gas flow simulations