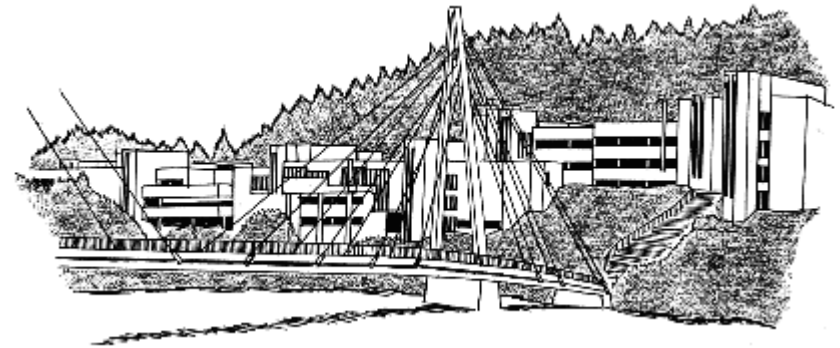
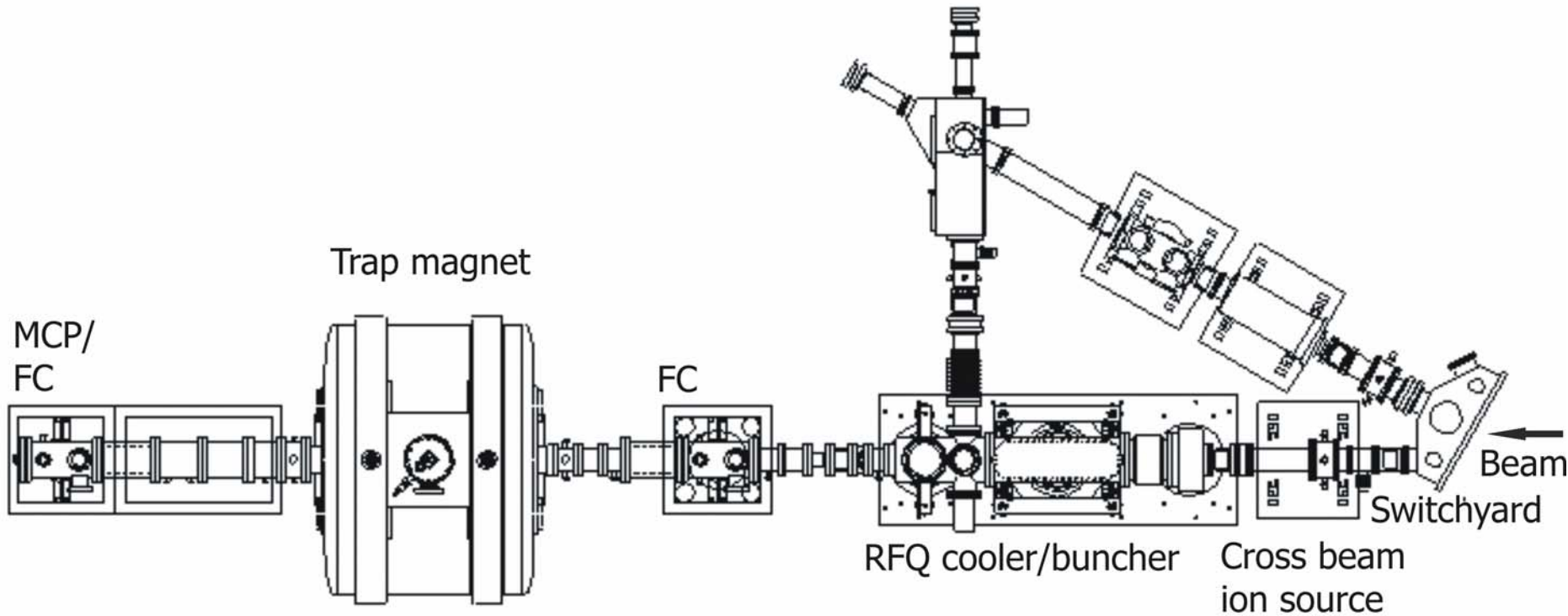


JYFLTRAP @ IGISOL

Results from recent measurements

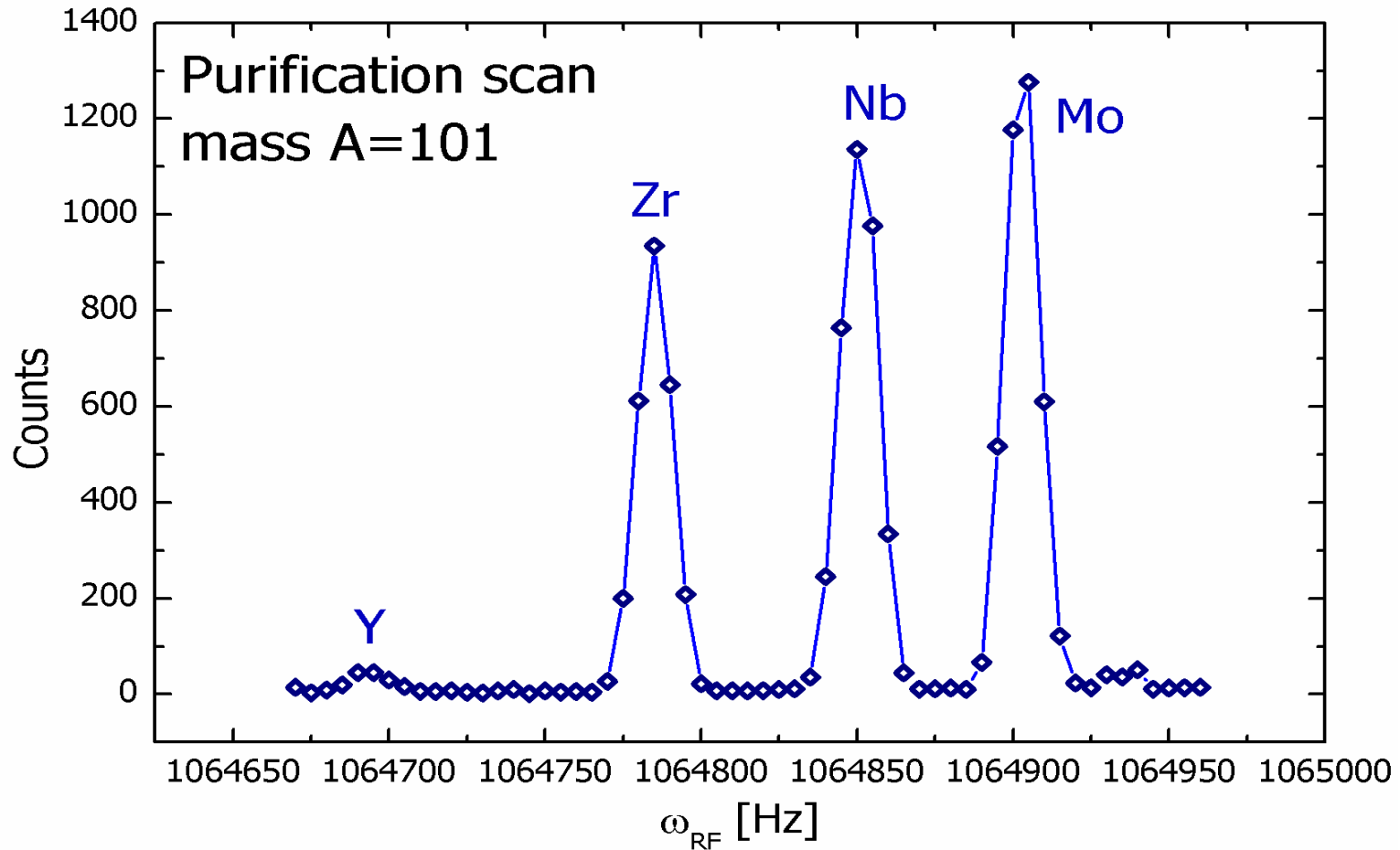


JYFLTRAP



7T superconducting solenoid
2 cylindrical Penning traps

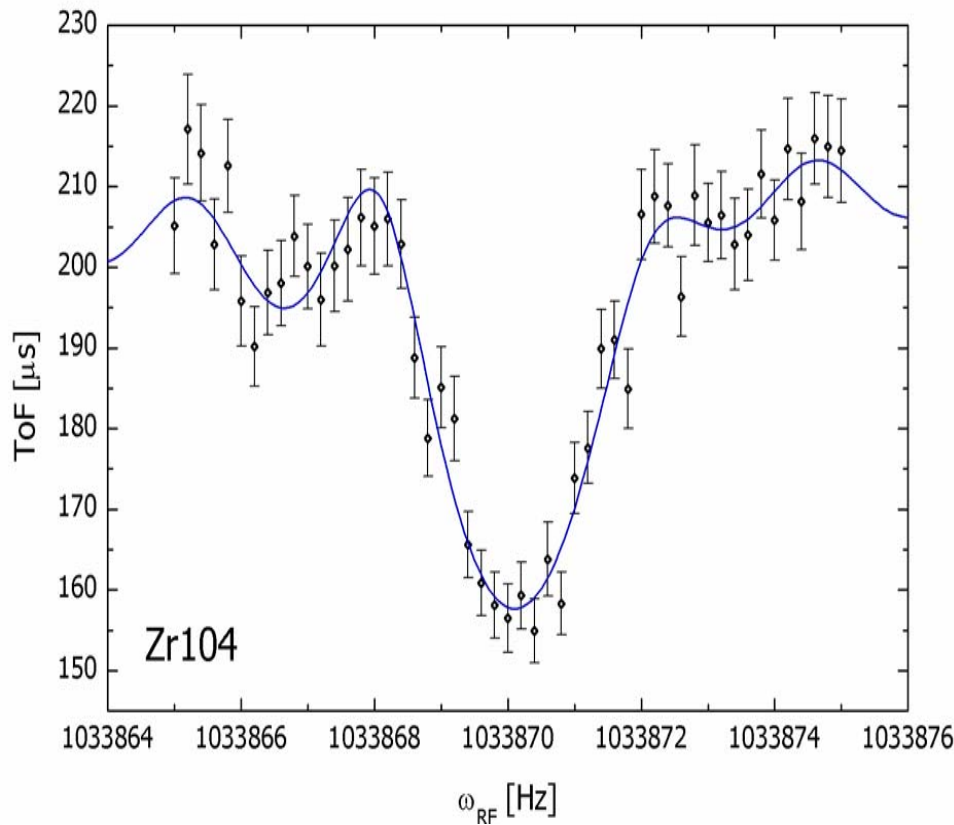
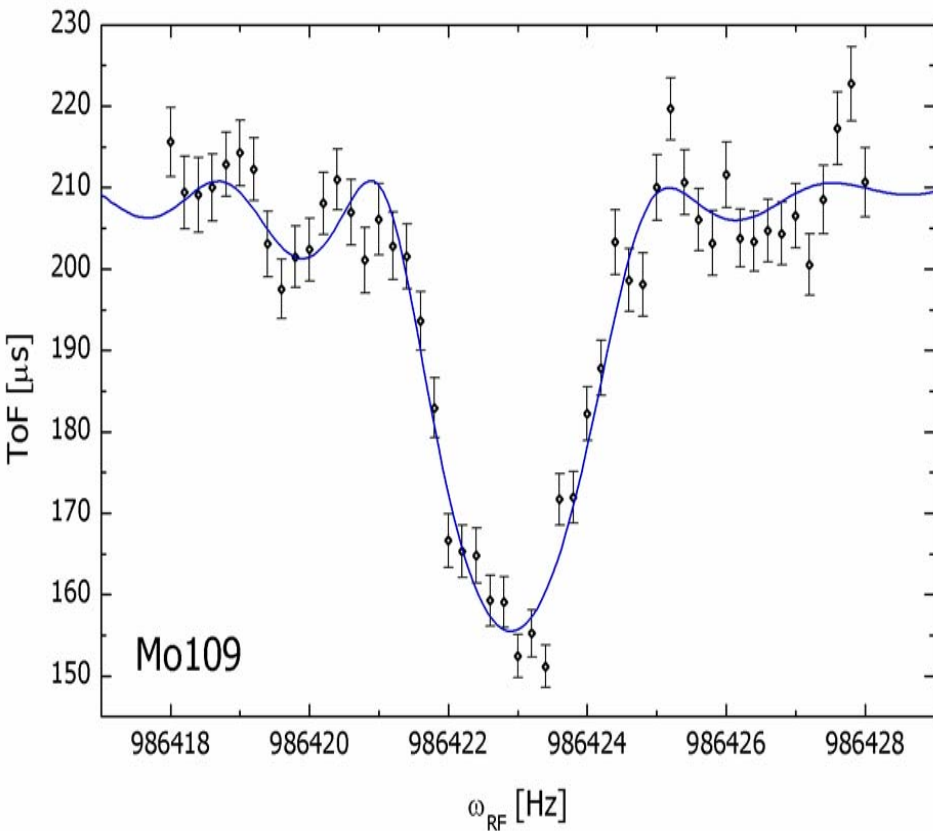
Isobaric purification



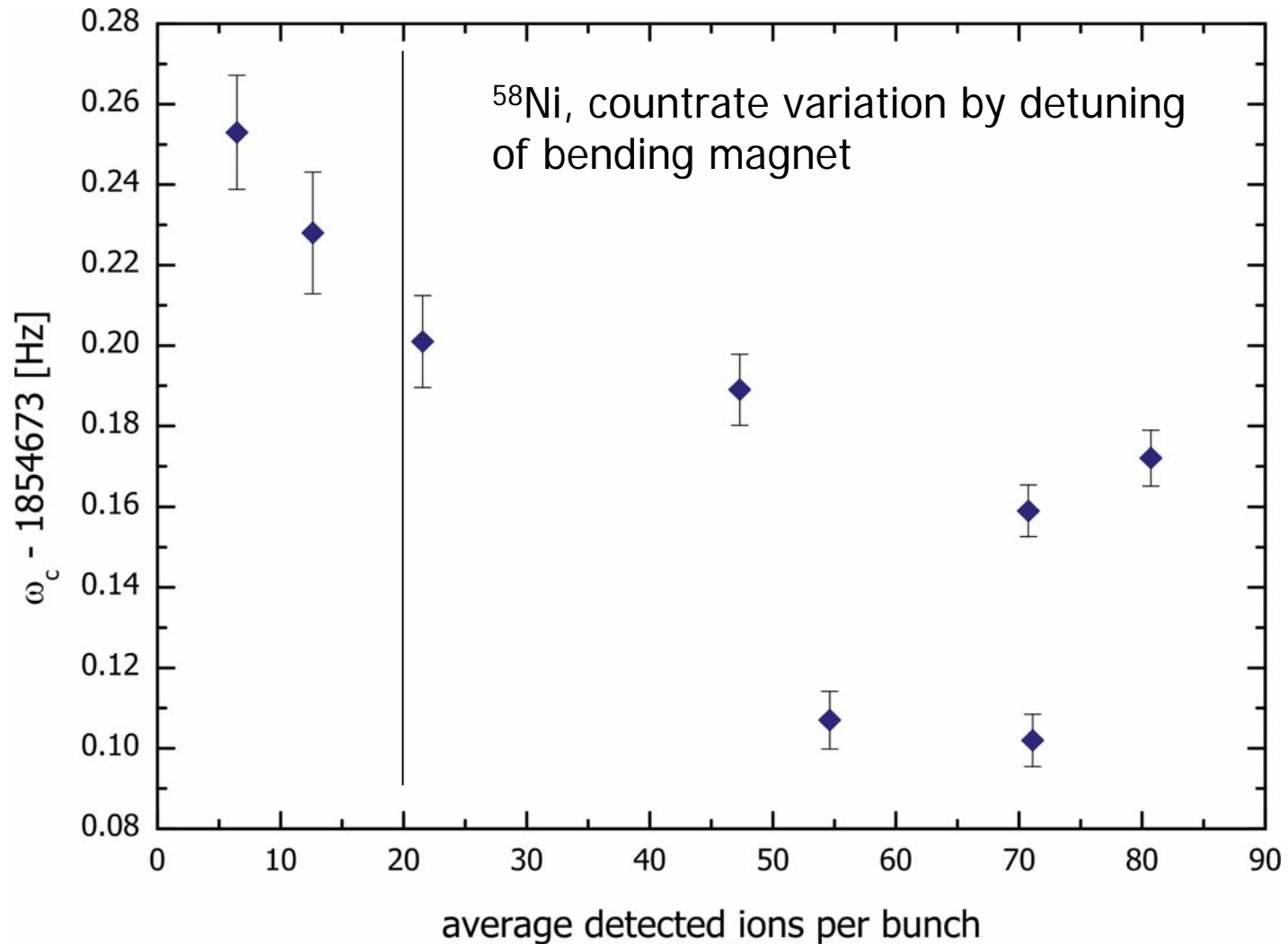
- FWHM ~ 20 Hz
- $m/\delta m = 145000$ possible
- sufficient for mass spectroscopy

What has been measured so far?

- masses of $^{98-105}\text{Zr}$, $^{95-99}\text{Sr}$, $^{102-110}\text{Mo}$
- spectroscopy of $^{100,102,104}\text{Zr}$ and $^{100,102,104}\text{Nb}$

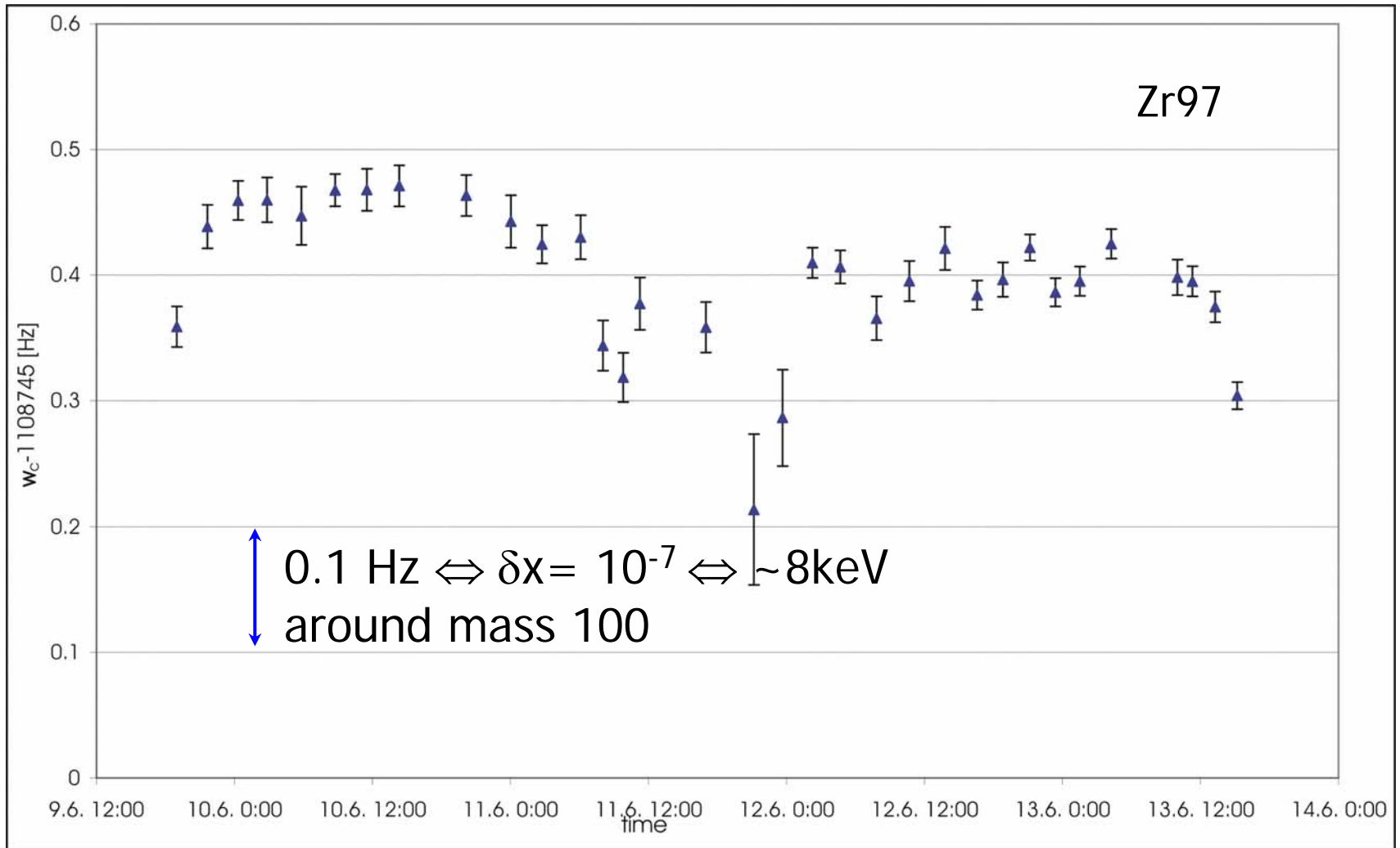


Countrate effects



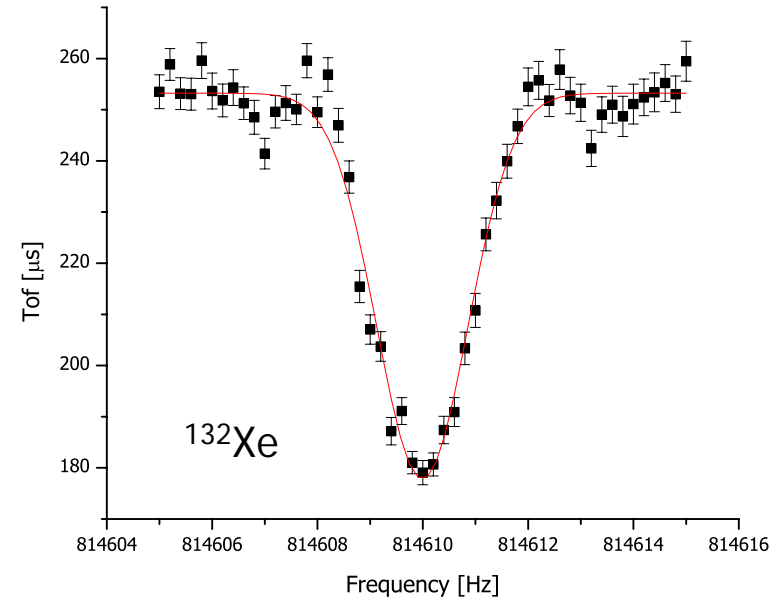
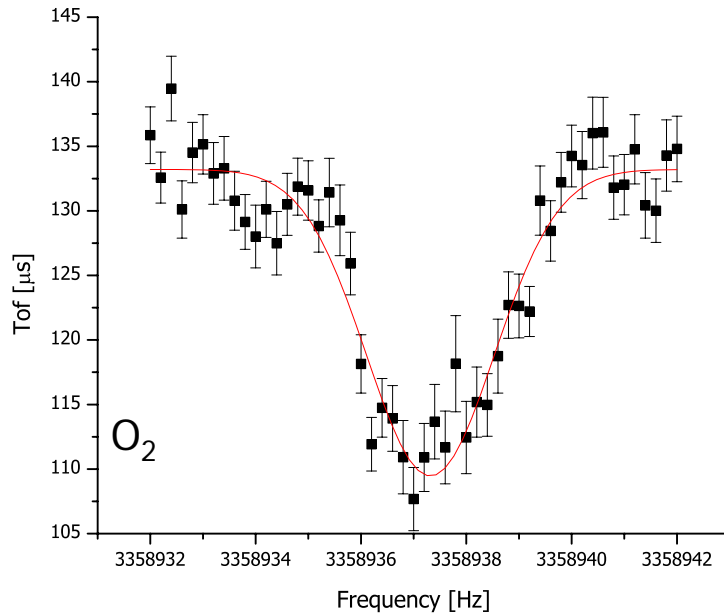
Countrate effect: $\delta\omega_c = \pm 0.1\text{Hz}$

Magnetic field fluctuations



$$\delta x = \pm 4 \times 10^{-8}$$

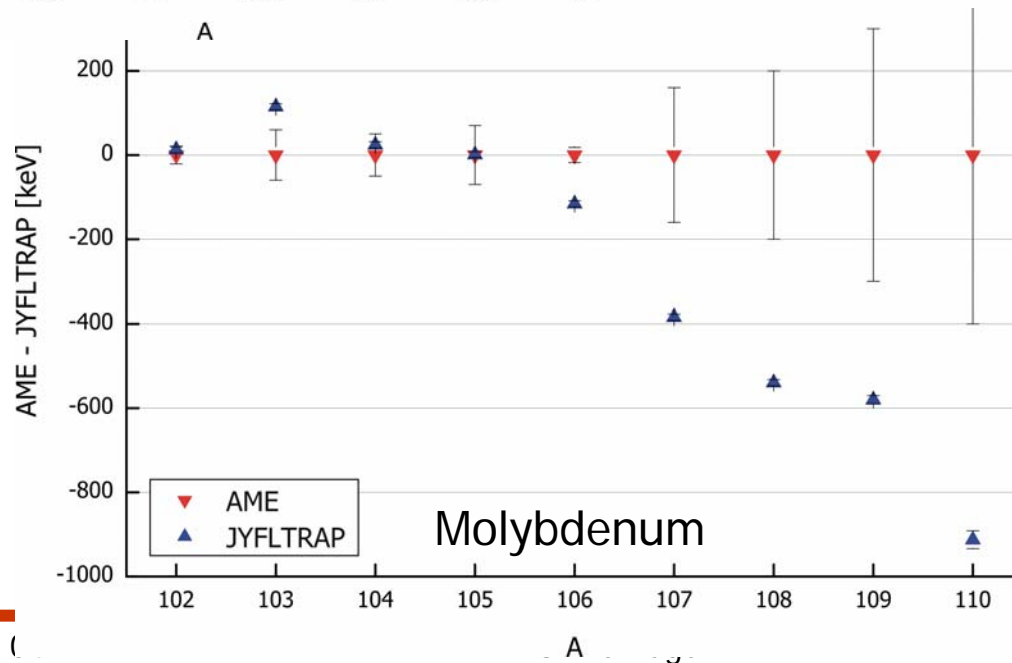
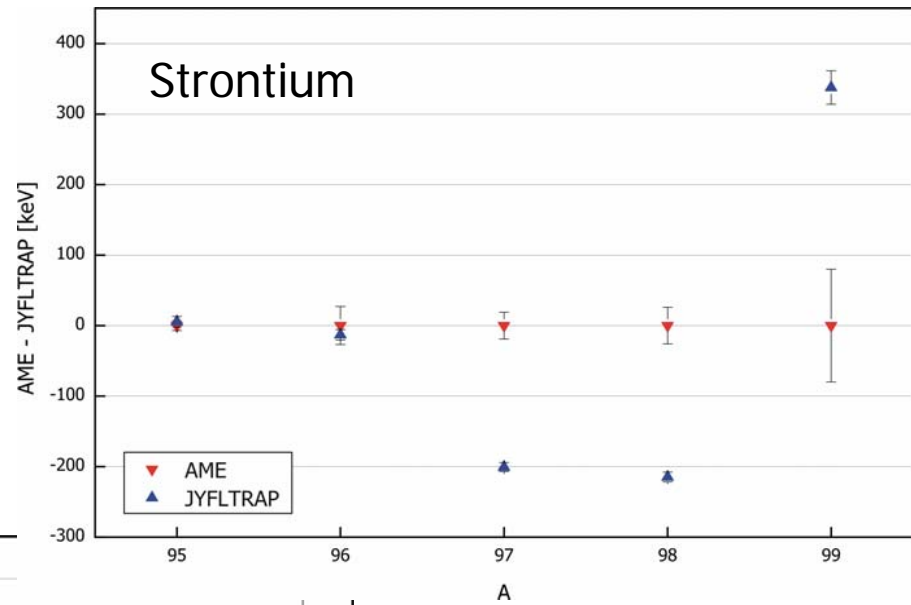
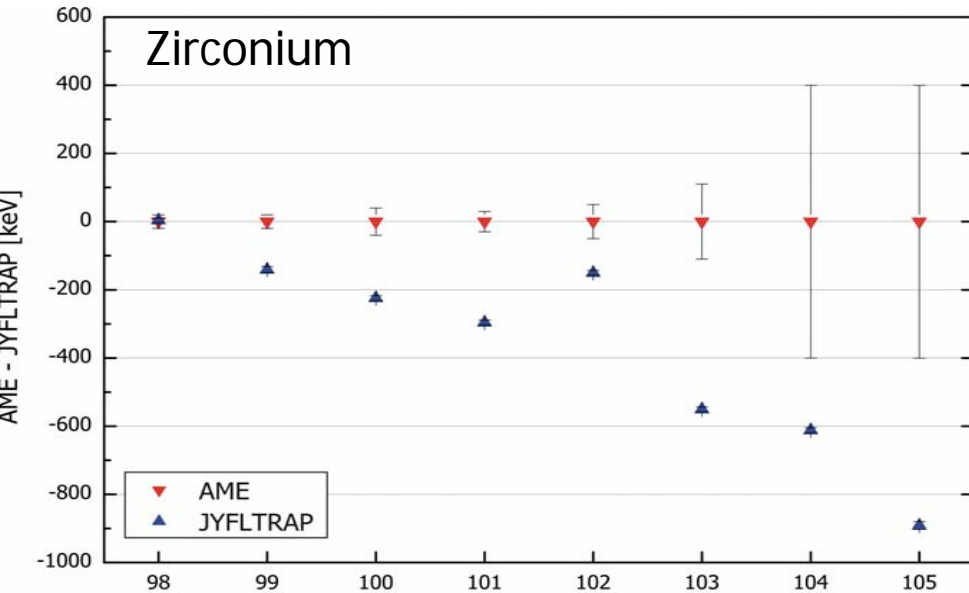
Mass-dependent uncertainties



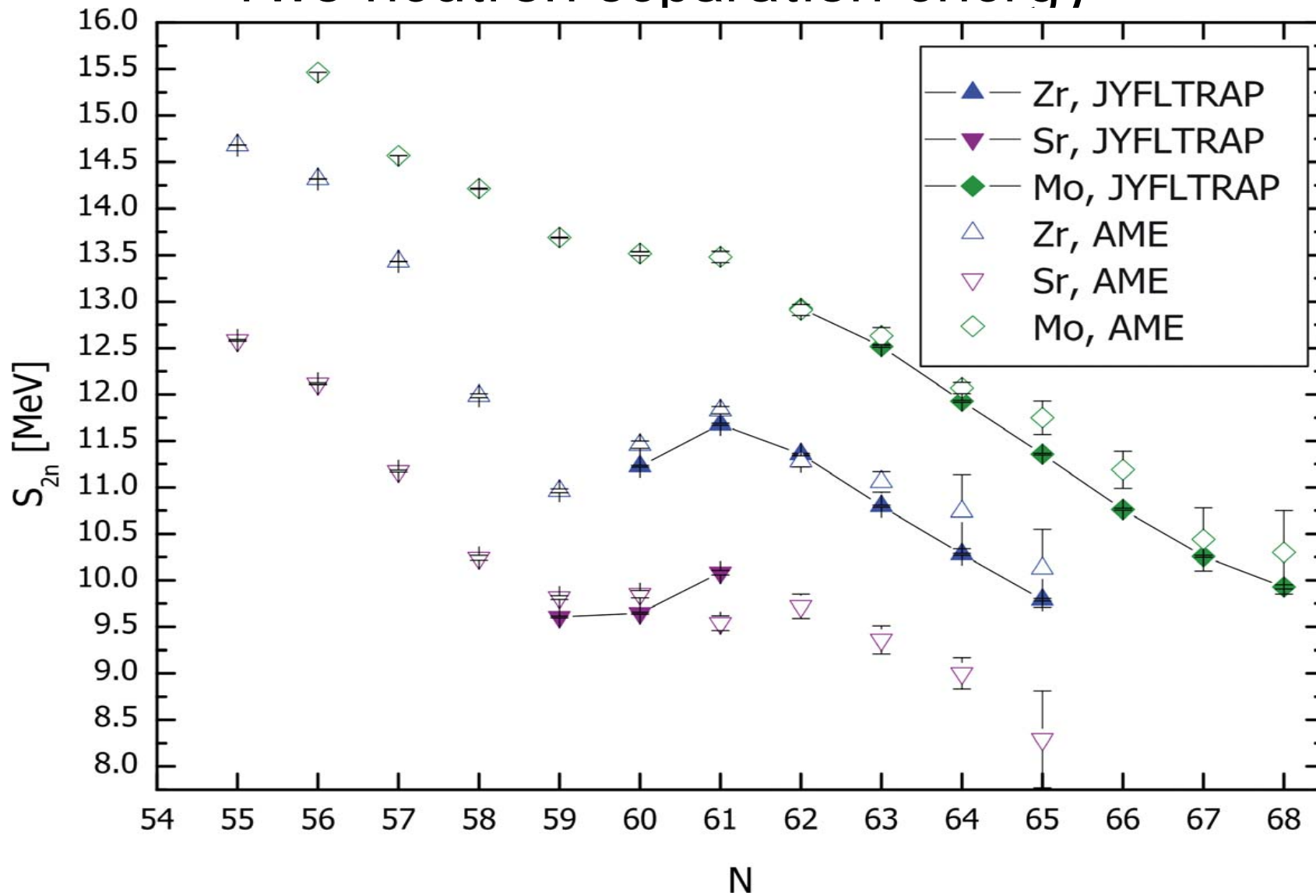
- only xenon-isotopes available from off-line ion-source
- for larger mass range: compare to O_2 ionized in purification trap
- not possible to properly cool and purify oxygen
- resulting mass dependent uncertainty:

$$(x_{\text{exp}} - x_{\text{AME}}) / x_{\text{AME}} = 7 \cdot 10^{-10} \cdot (m - m_{\text{ref}})$$

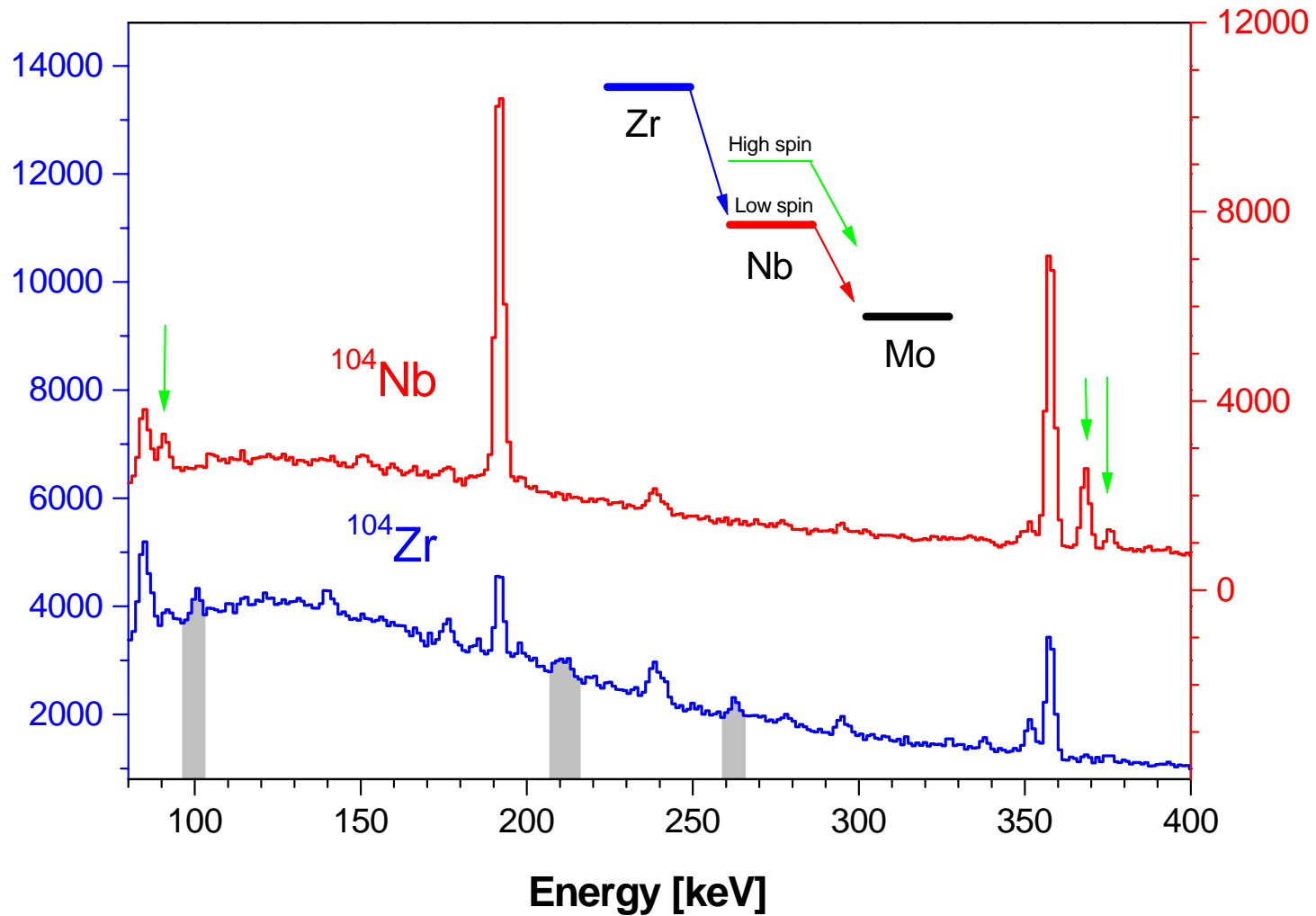
Results



Two neutron separation energy



Spectroscopy with purified beam



Outlook

- upcoming: mass measurement of ^{46}V
- further mass measurements of fission products between $Z=30$ and $Z=50$, e.g. ^{79}Ge , $N=70$ isotones
- systematic improvements: see Tommi's talk