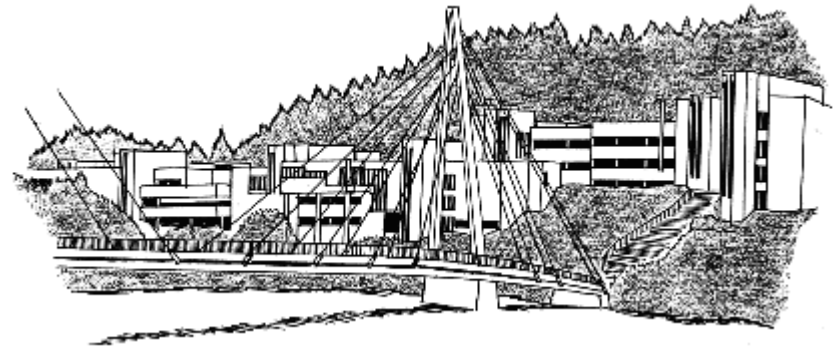
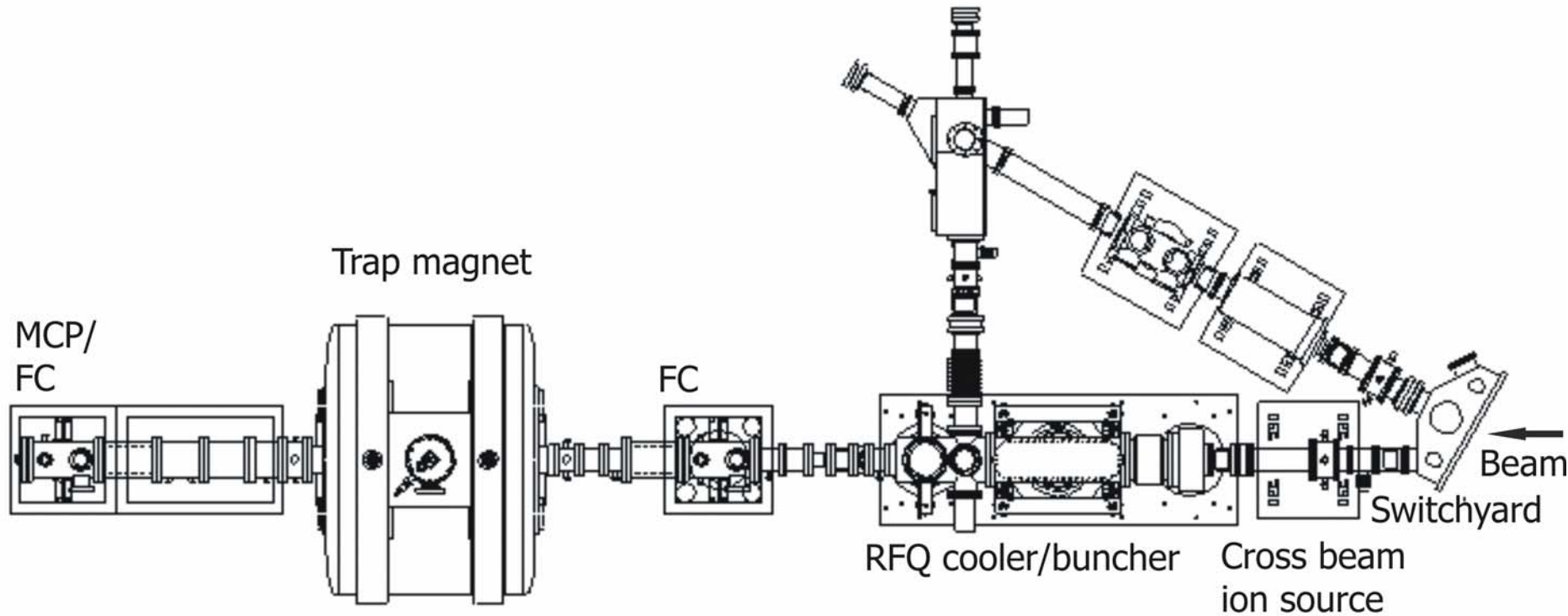


# JYFLTRAP @ IGISOL

Results from recent measurements

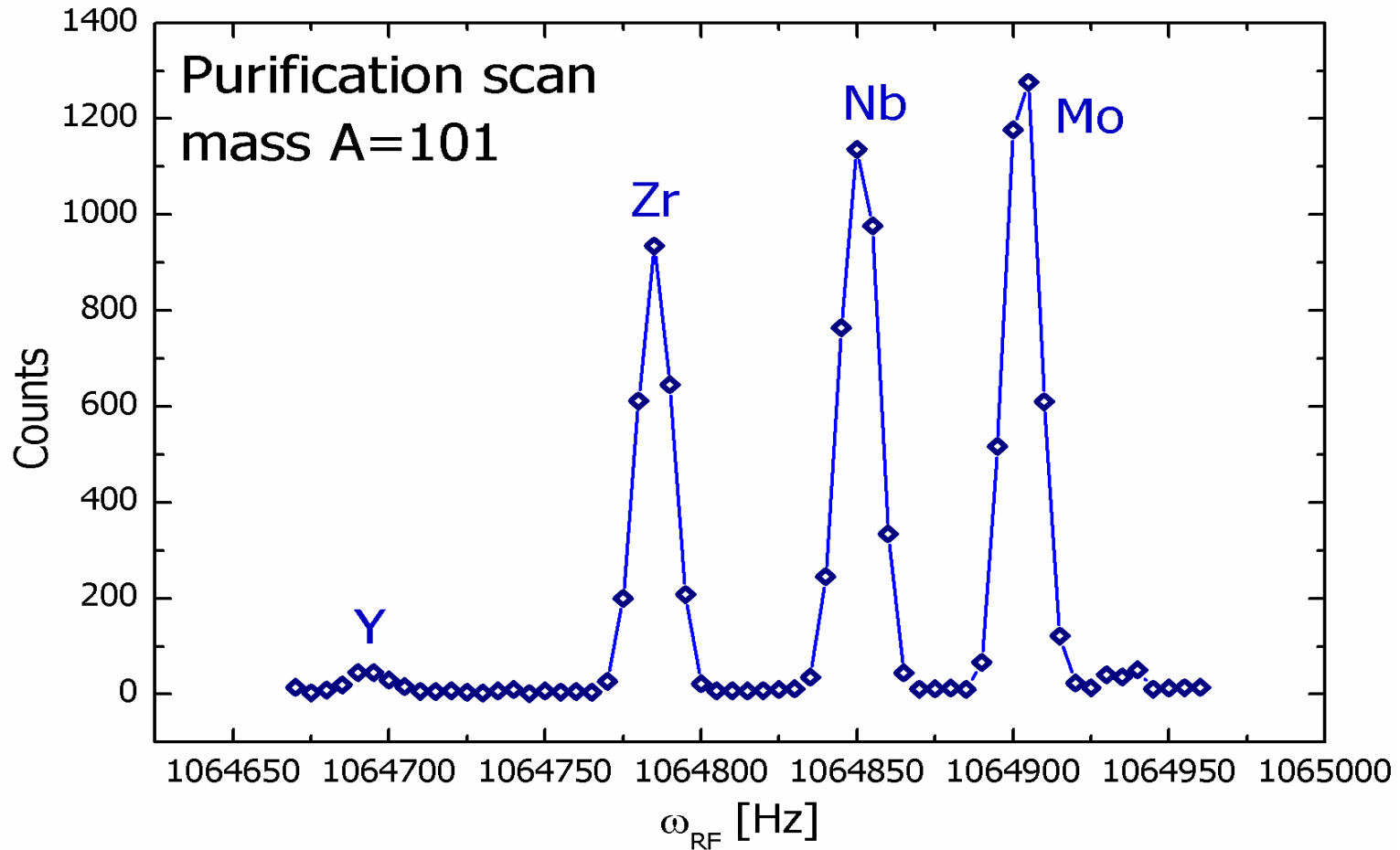


# JYFLTRAP



7T superconducting solenoid  
2 cylindrical Penning traps

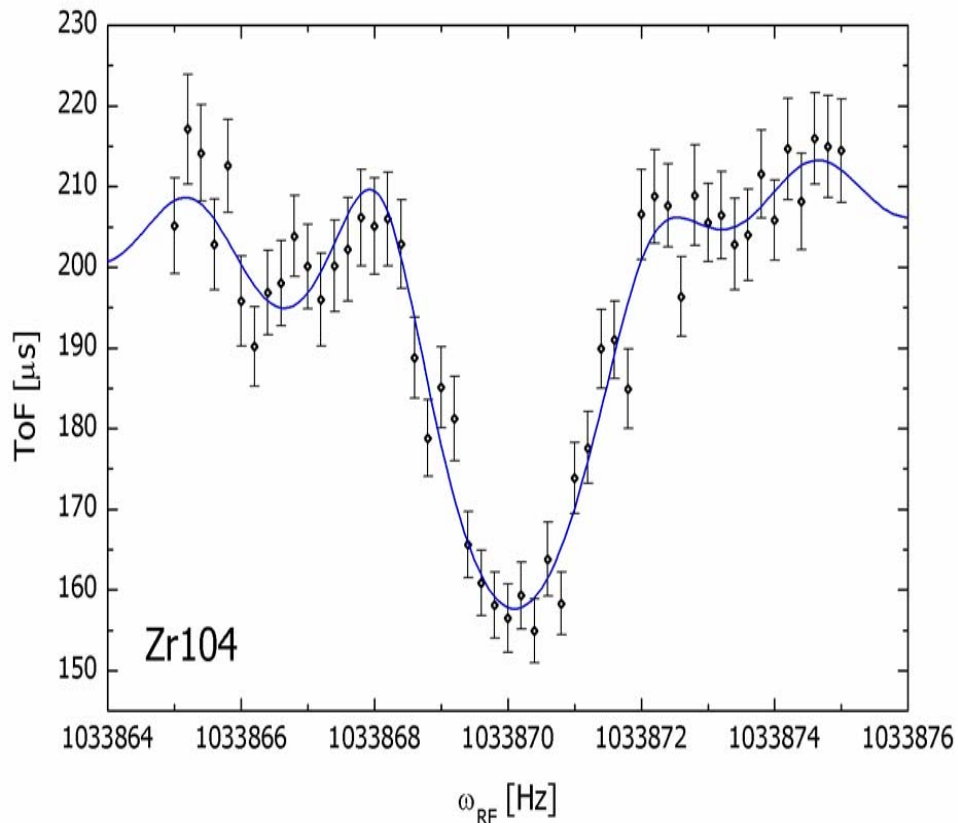
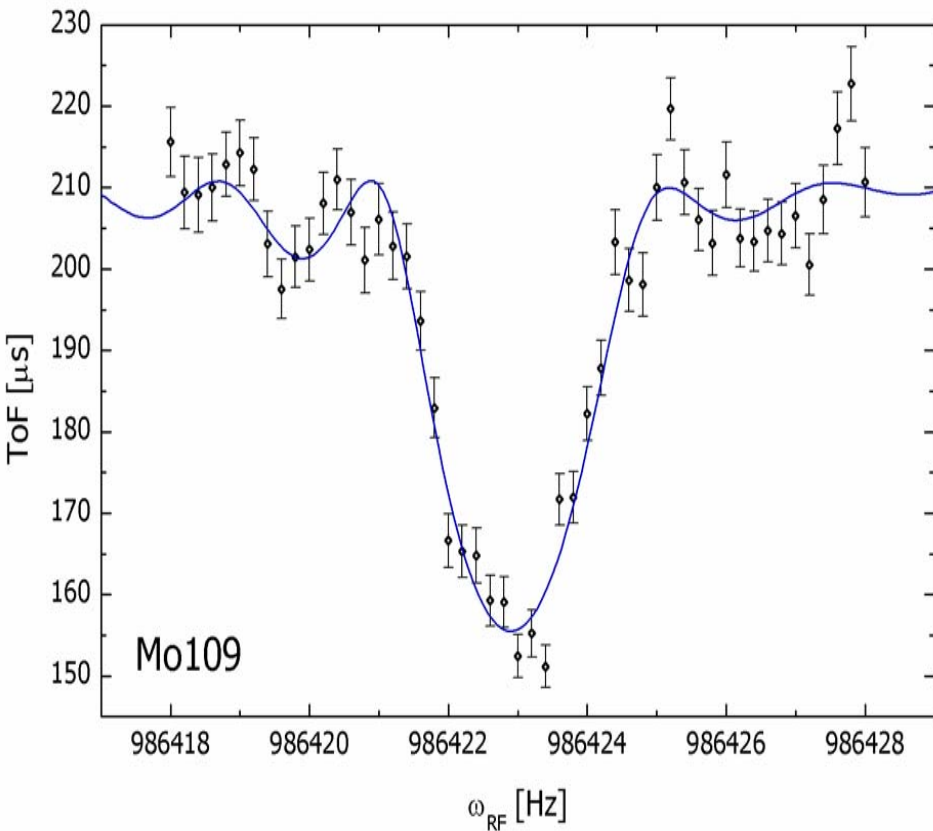
# Isobaric purification



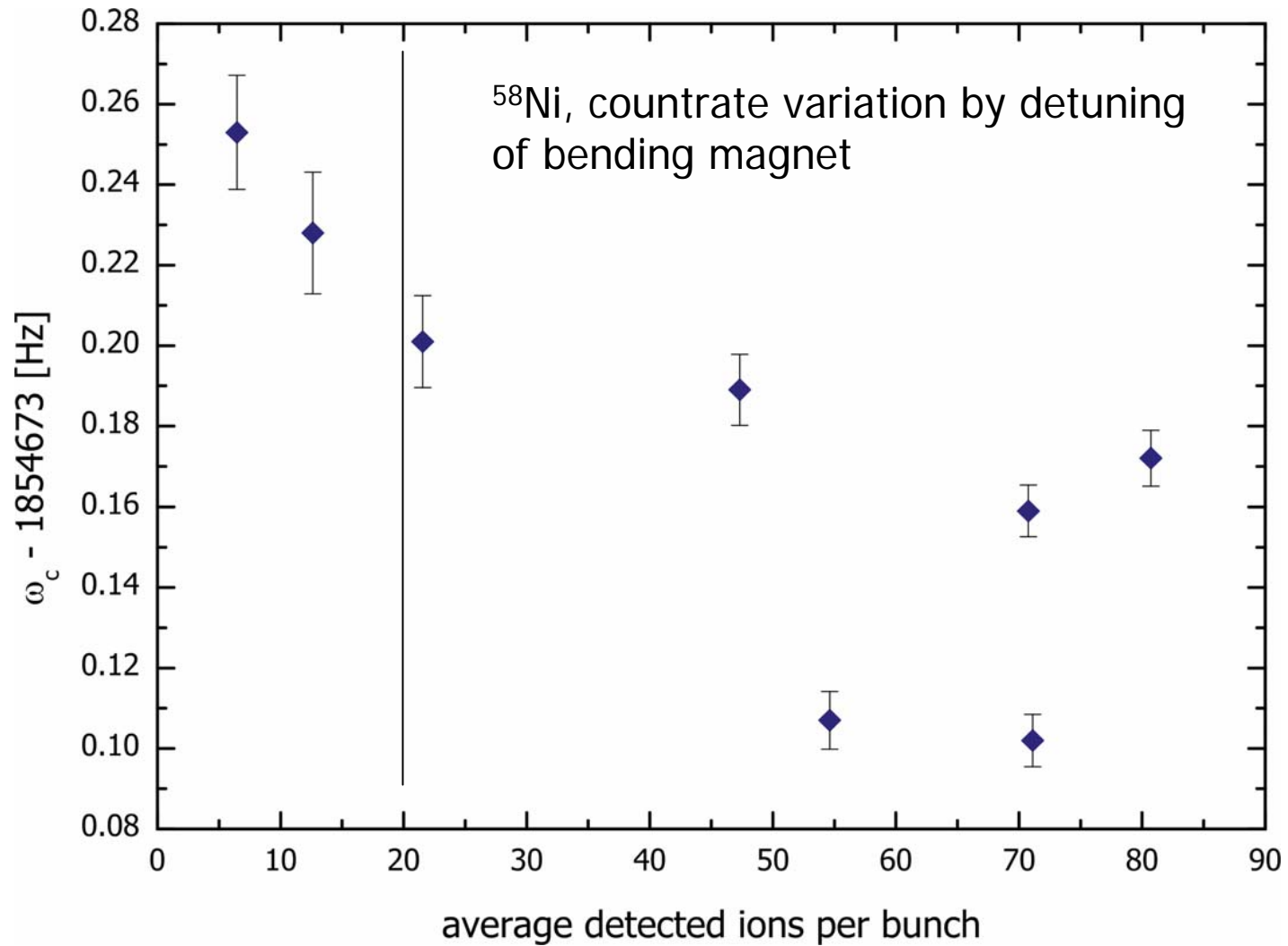
- FWHM  $\sim 20$ Hz
- $m/\delta m = 145000$  possible
- sufficient for mass spectroscopy

# 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  $^{100,102,104}\text{Nb}$

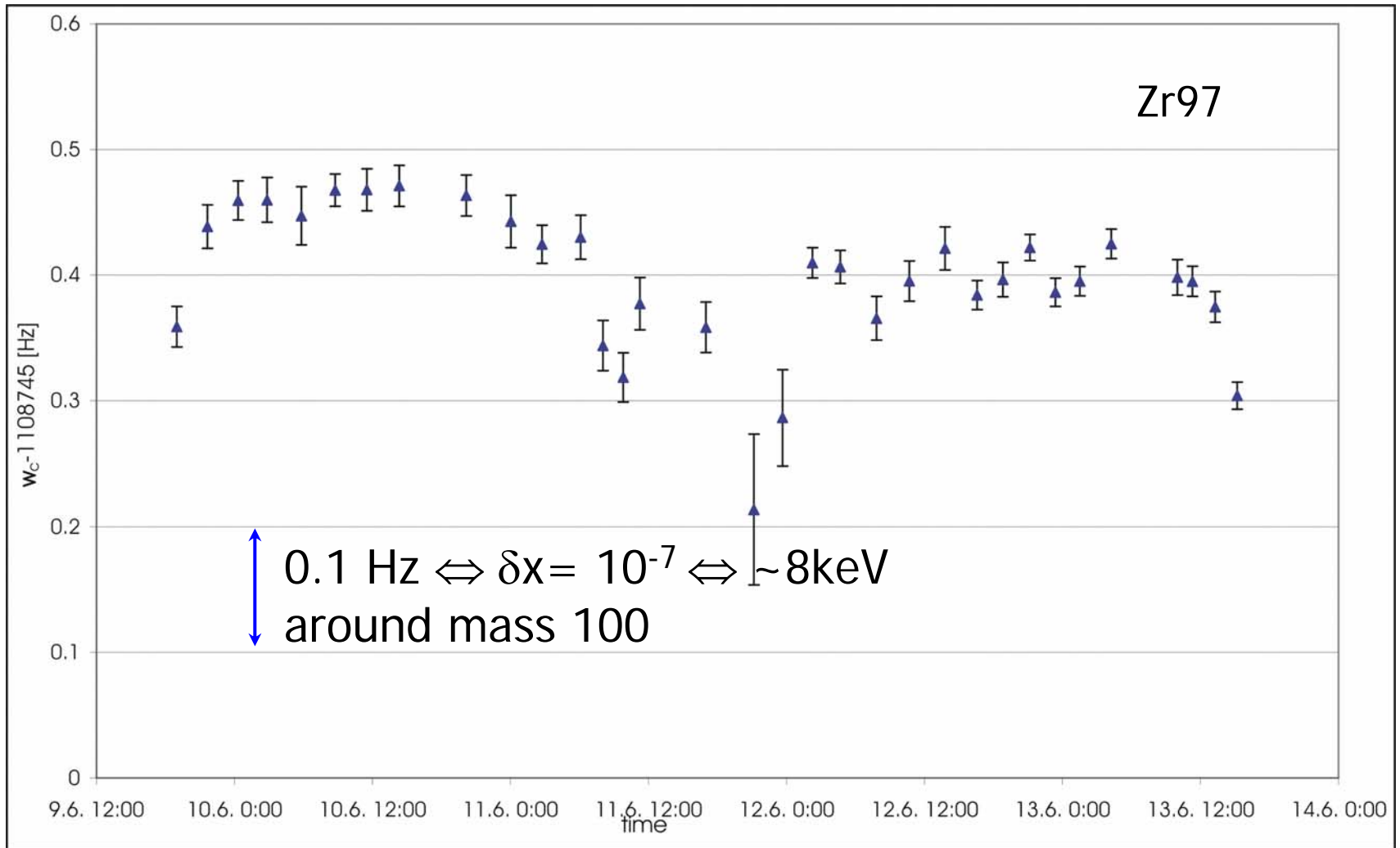


# Countrate effects



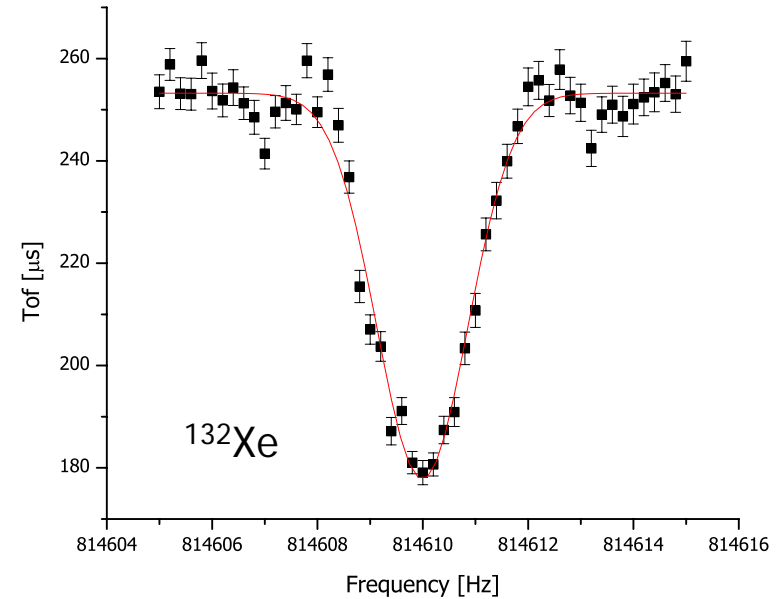
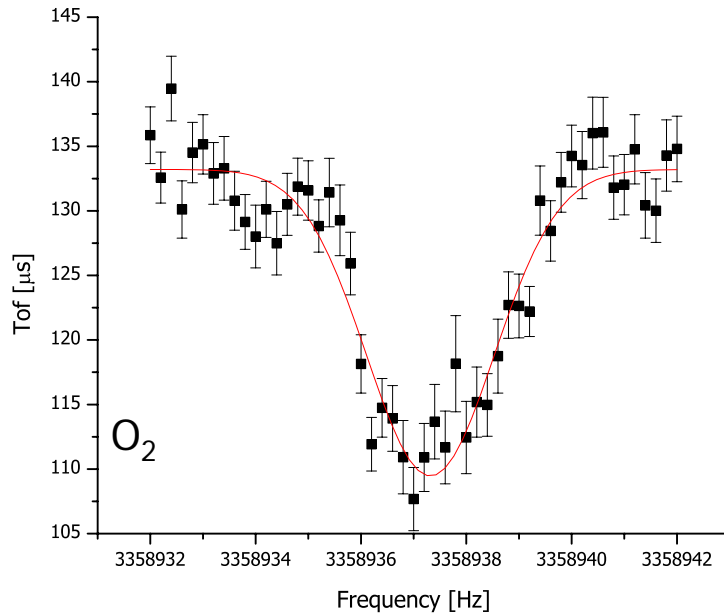
Countrate effect:  $\delta\omega_c = \pm 0.1\text{Hz}$

# Magnetic field fluctuations



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

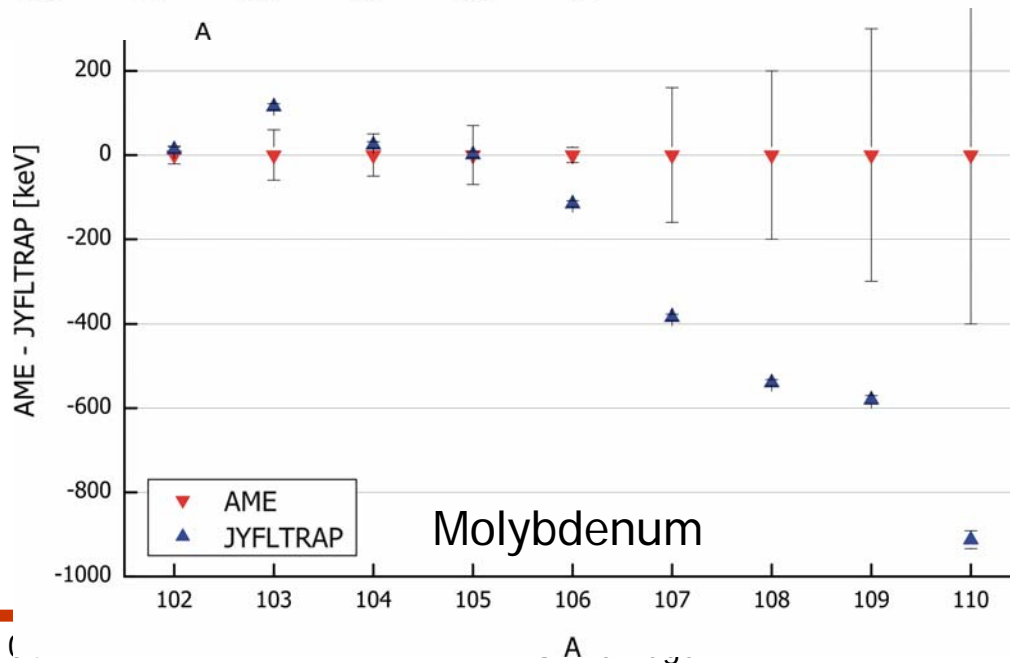
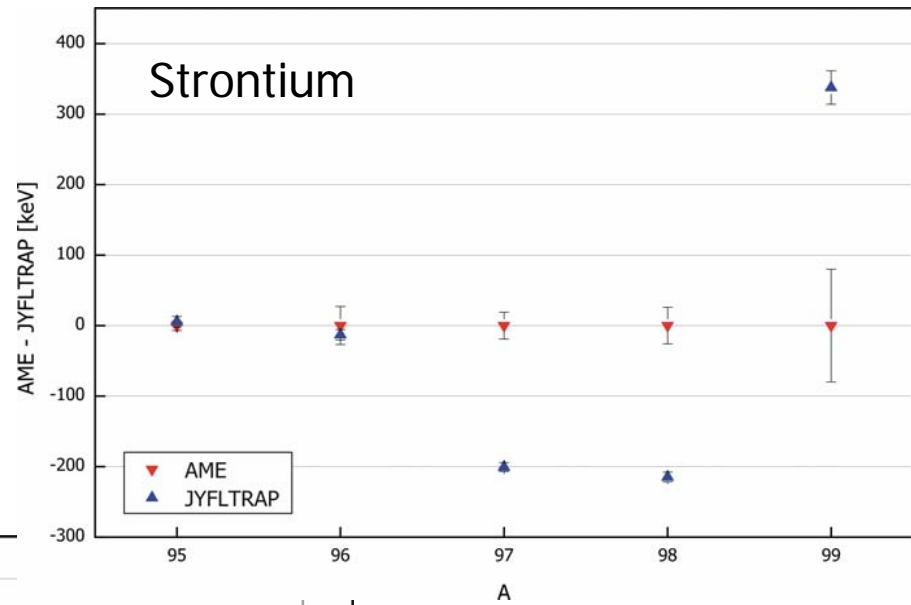
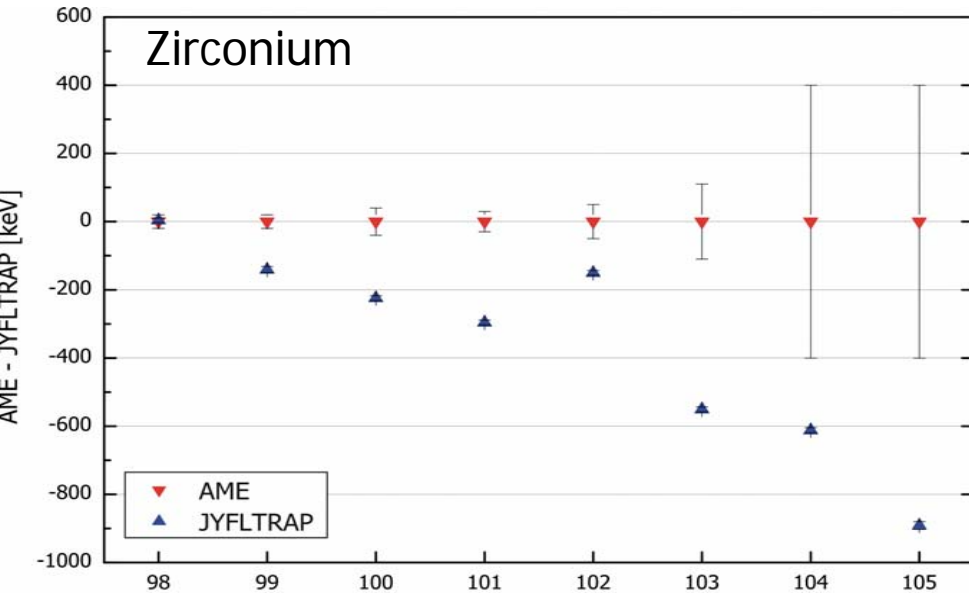
# Mass-dependent uncertainties



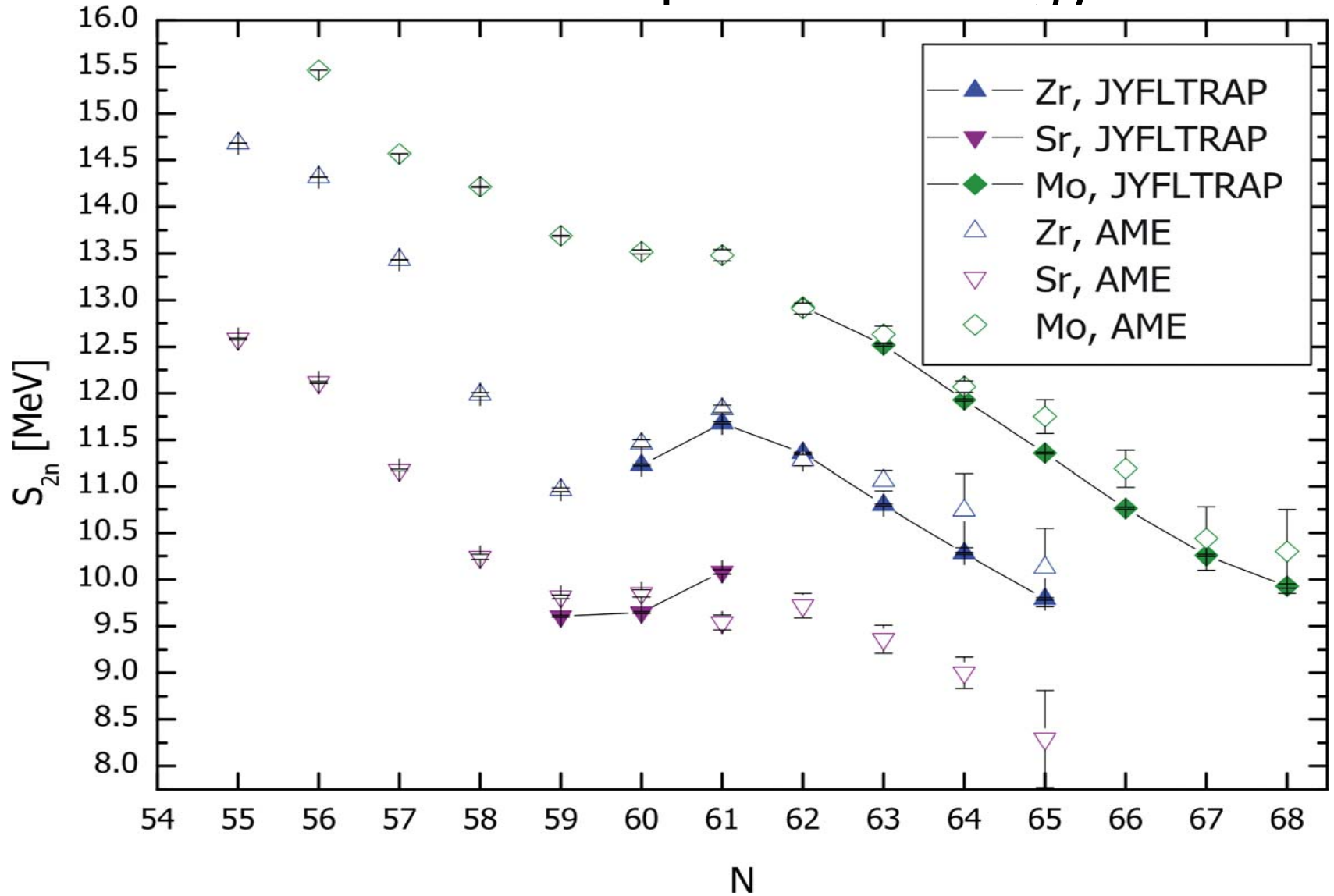
- only xenon-isotopes available from off-line ion-source
- for larger mass range: compare to  $O_2$  ionized in purification trap
- not possible to properly cool and purify oxygen
- resulting mass dependent uncertainty:

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

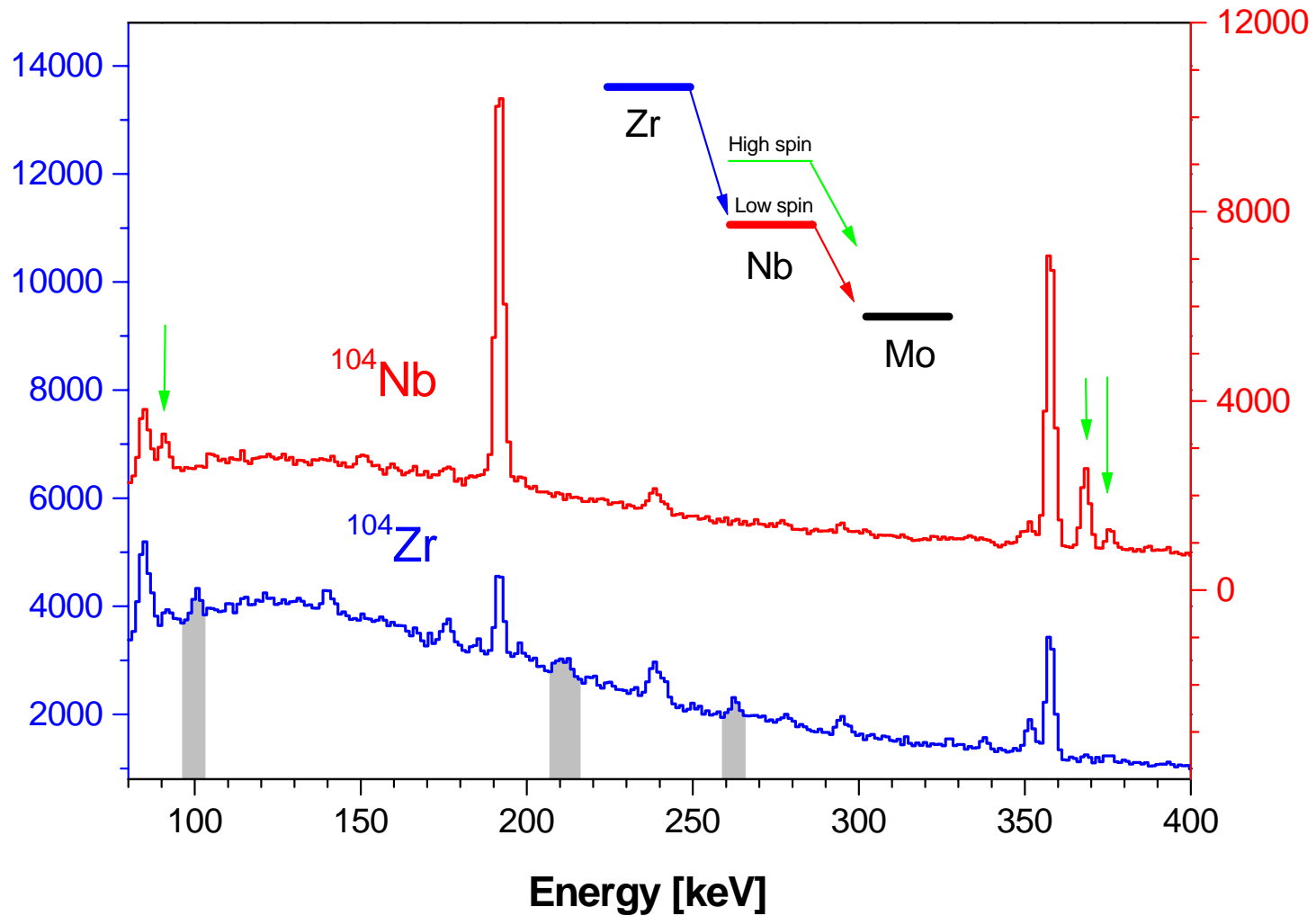
# Results



# Two neutron separation energy



# Spectroscopy with purified beam



# Outlook

- upcoming: mass measurement of  $^{46}\text{V}$
- further mass measurements of fission products between  $Z=30$  and  $Z=50$ , e.g.  $^{79}\text{-}^{82}\text{Ge}$ ,  $N=70$  isotones
- systematic improvements: see Tommi's talk