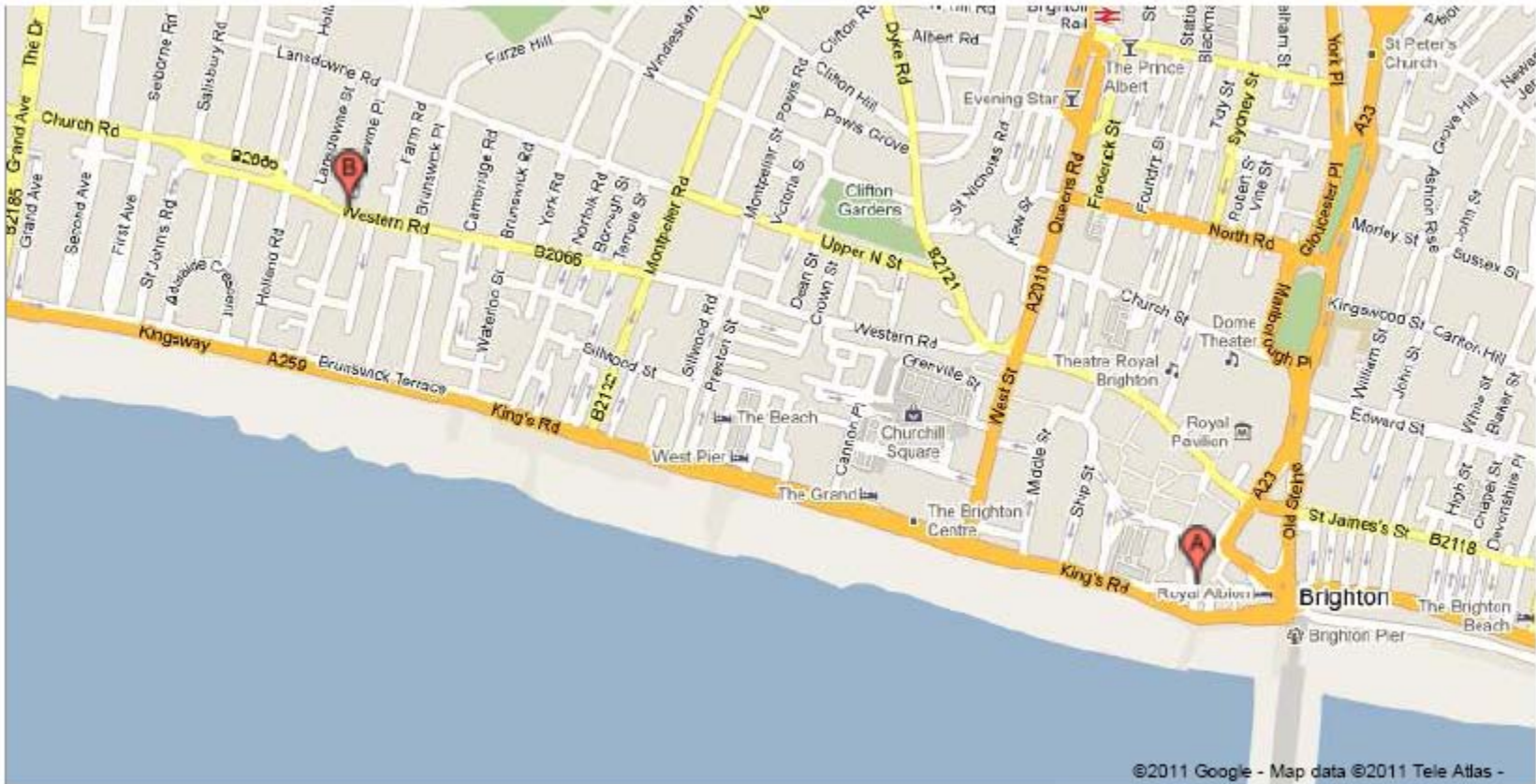
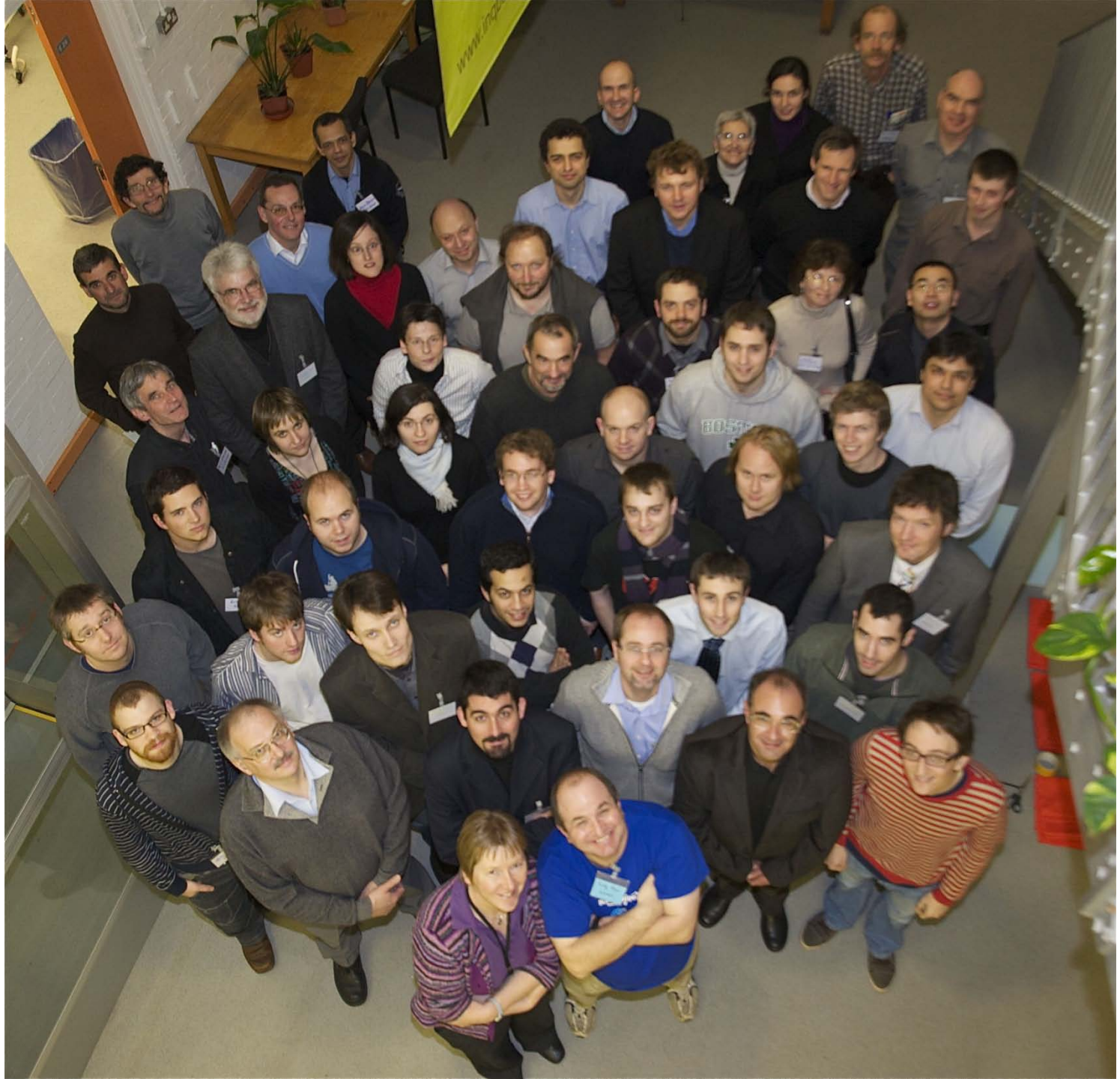


Dinner: Days Chinese Buffet

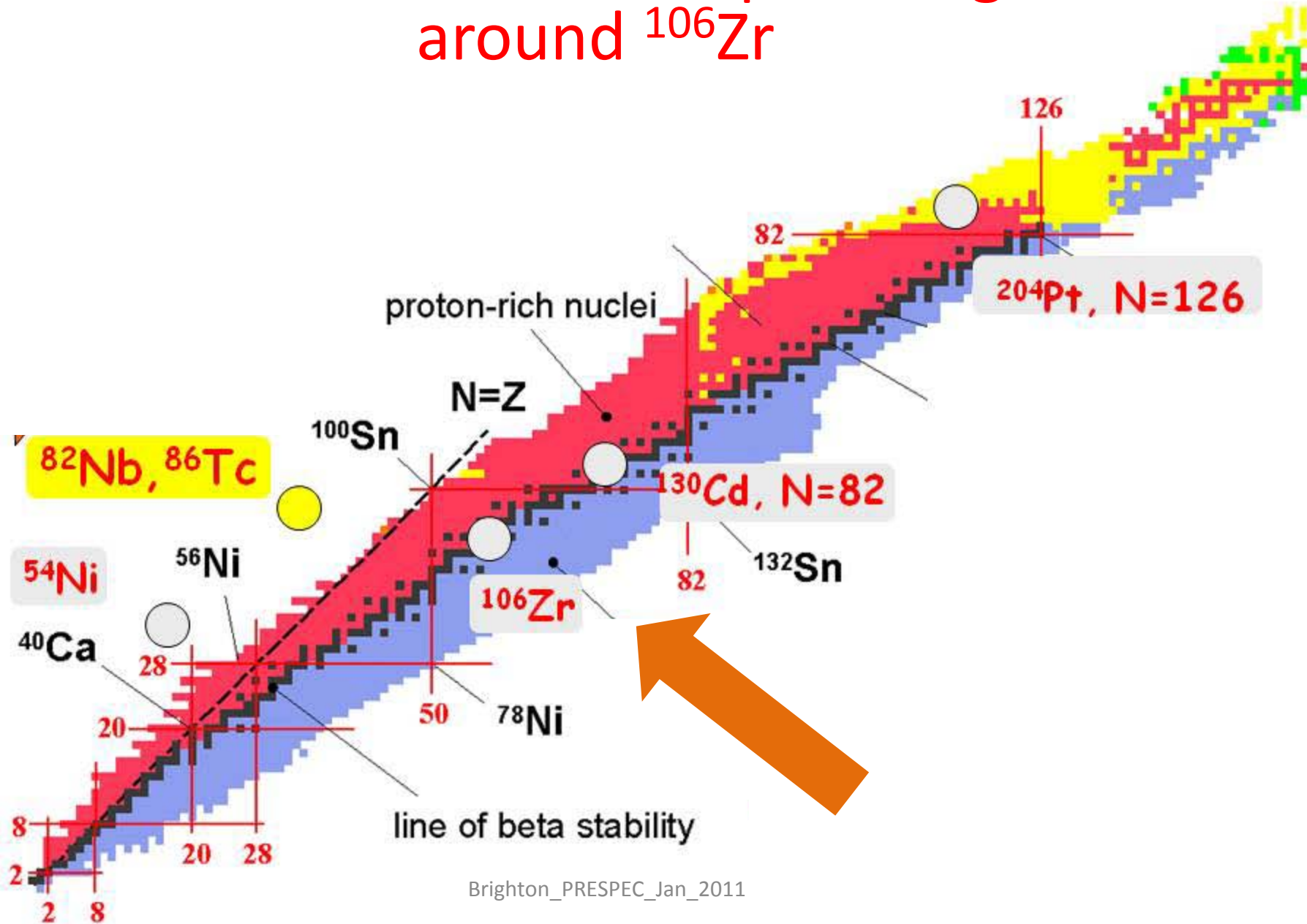
All you can eat £11.99

19:30





Deformation and shape changes around ^{106}Zr



● Known prolate nuclei

^{111}Tc : Urban *et al.* EPJA24 (2005) 161

^{116}Pd : Hua *et al.* Phys. Letts. B562 (2003) 201

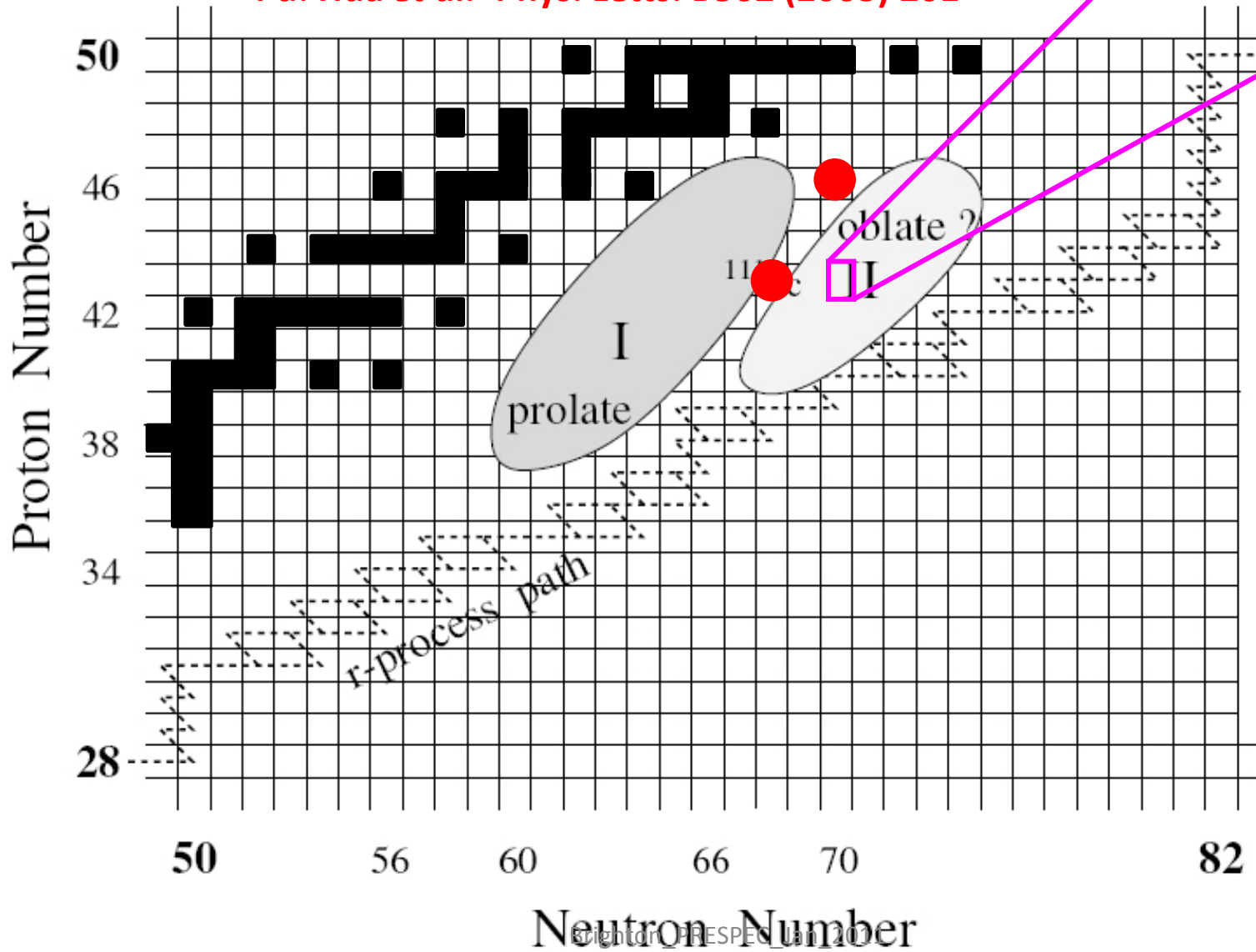
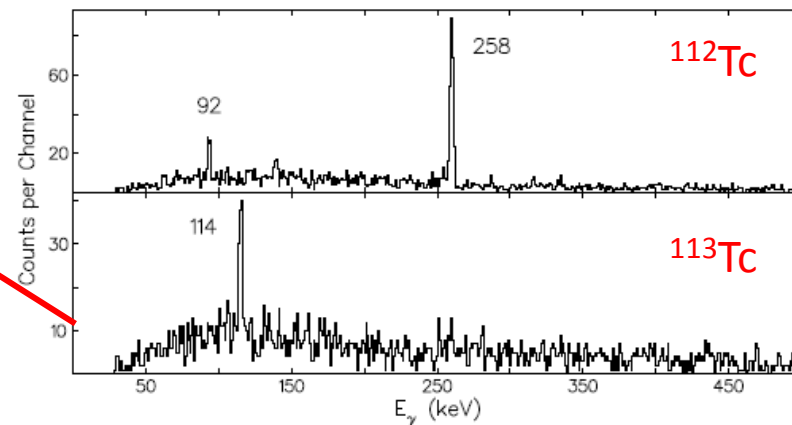
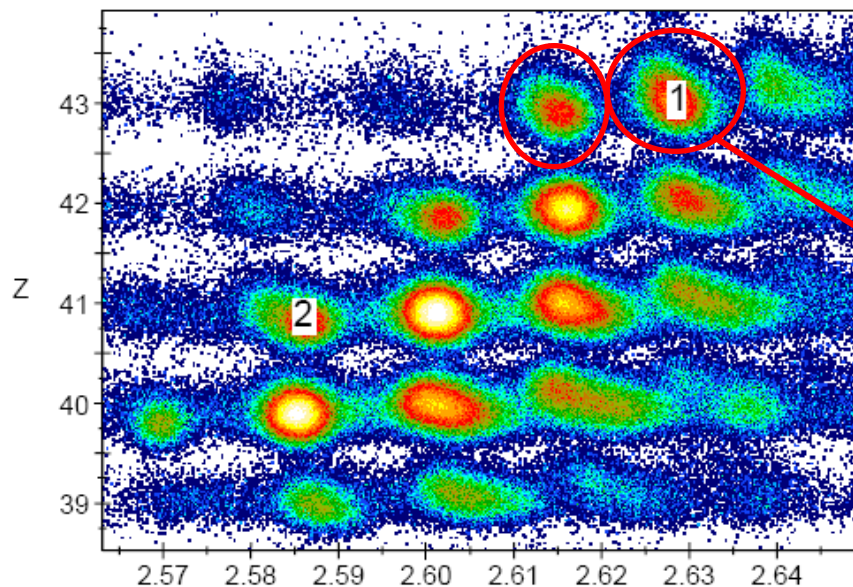
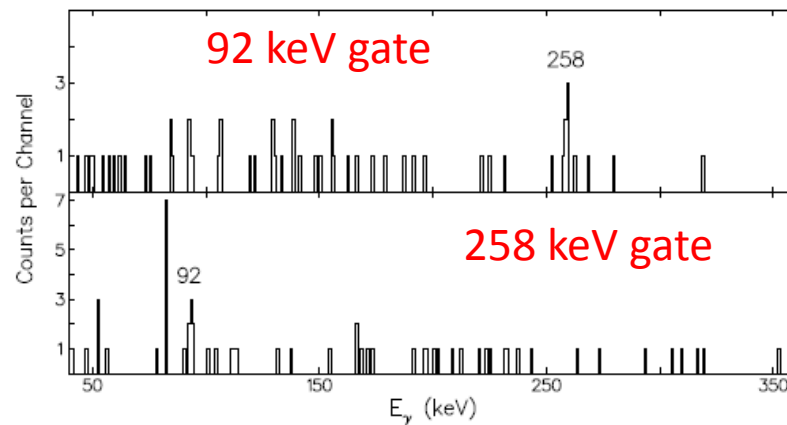
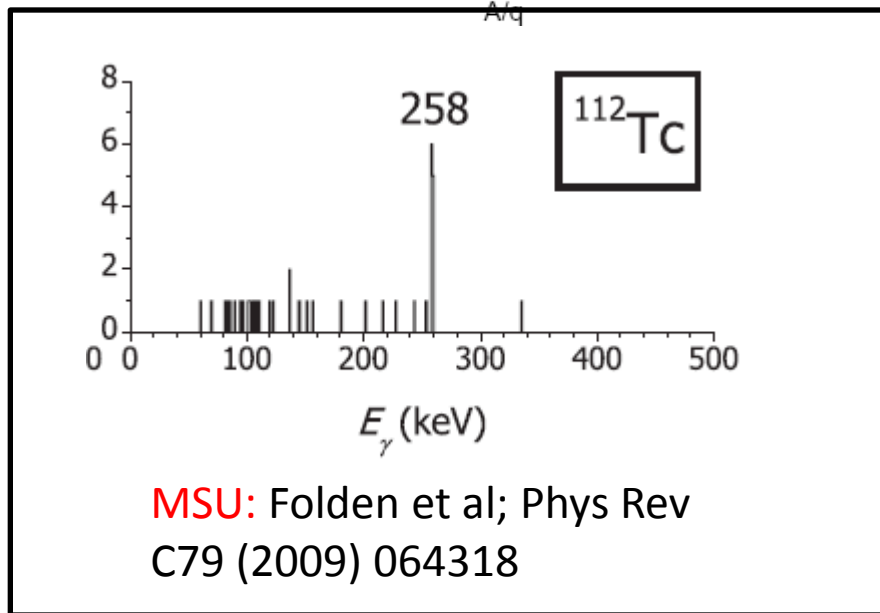


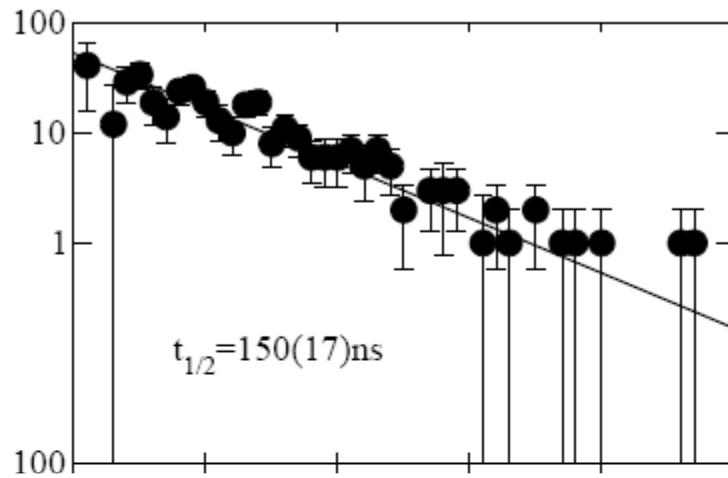
Diagram modified from Urban *et al.*



Coincidences are weak but clear:

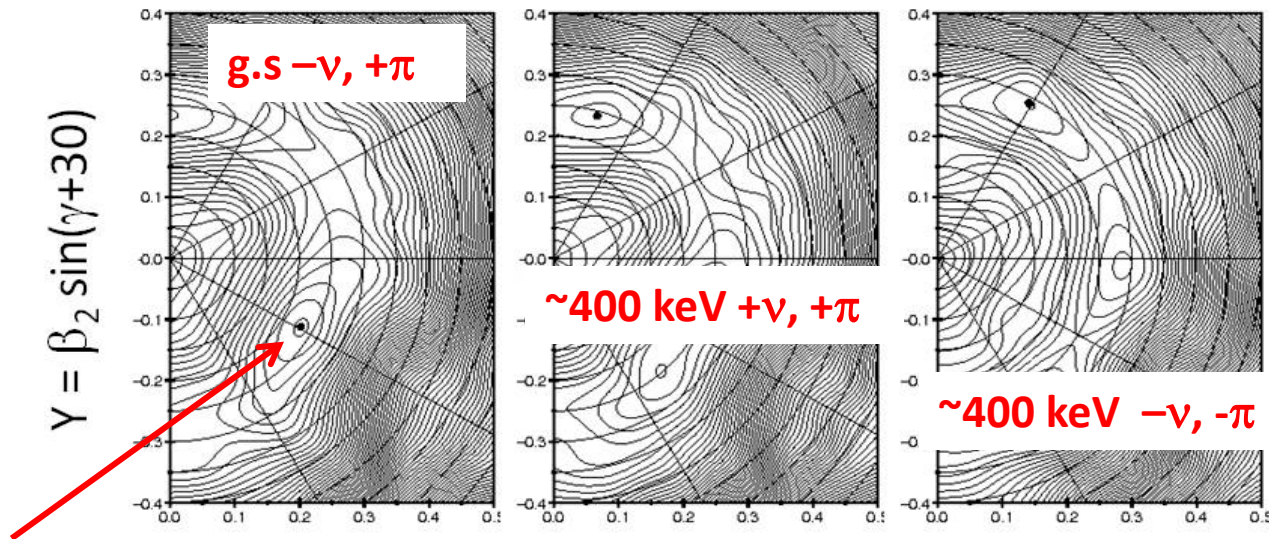


^{112}Tc



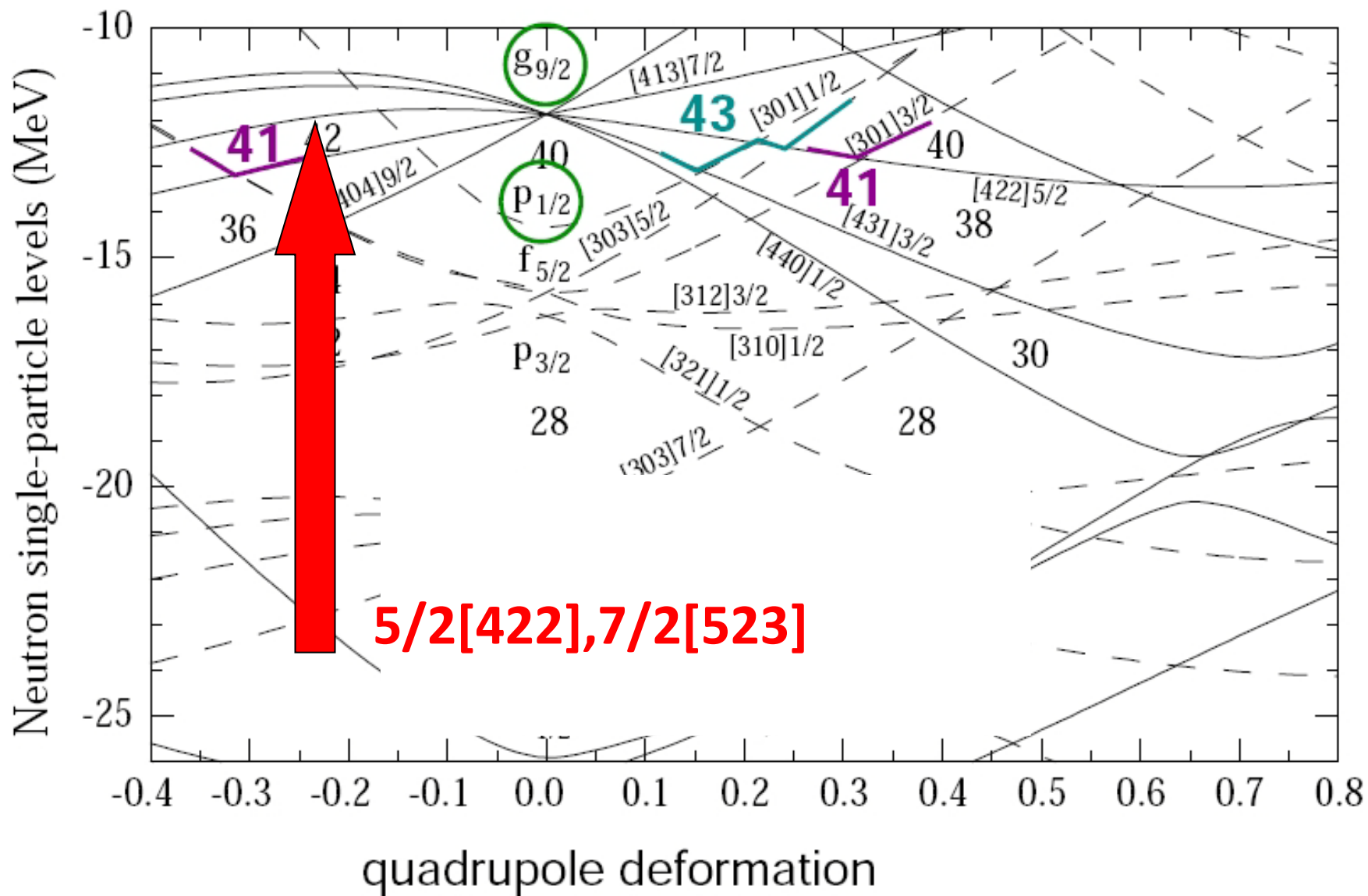
$\Rightarrow \lambda < 2$

$Z=43, N=69 \Rightarrow$ four combinations of parities for energy surface calculations

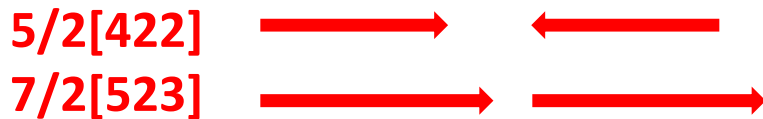
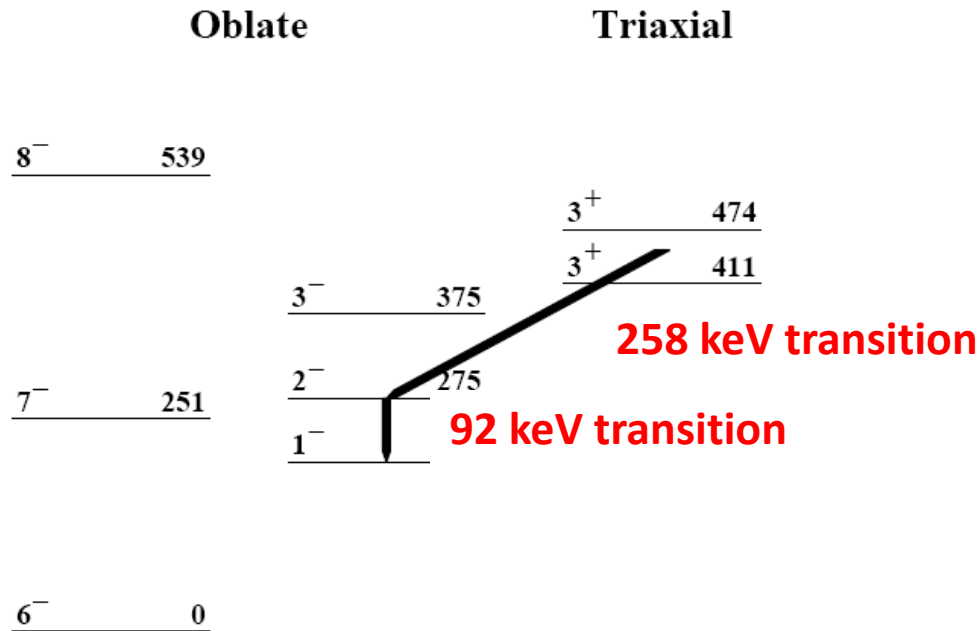


oblate, $\beta_2 \sim 0.2$

$$X = \beta_2 \cos(\gamma+30)$$

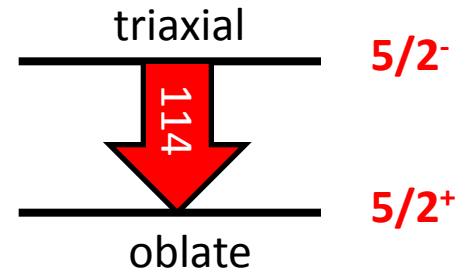
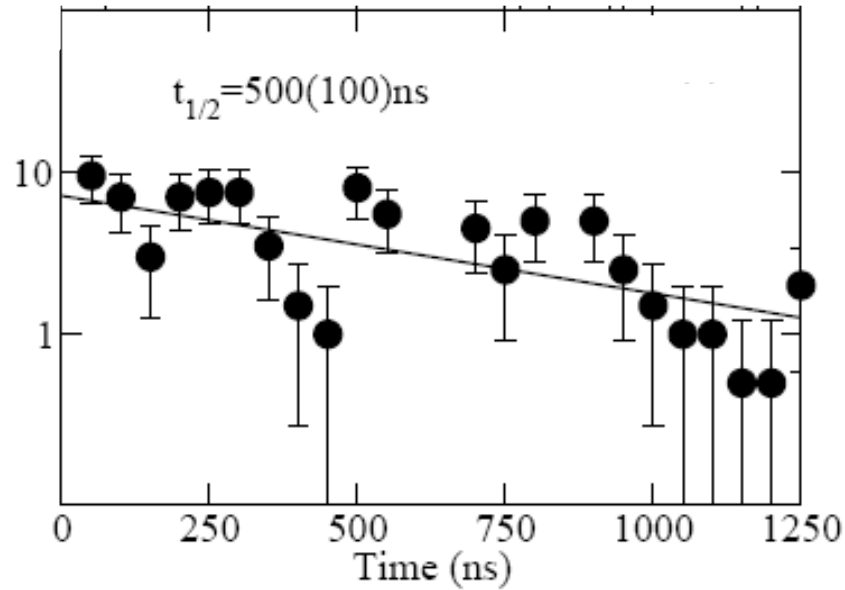


^{112}Tc

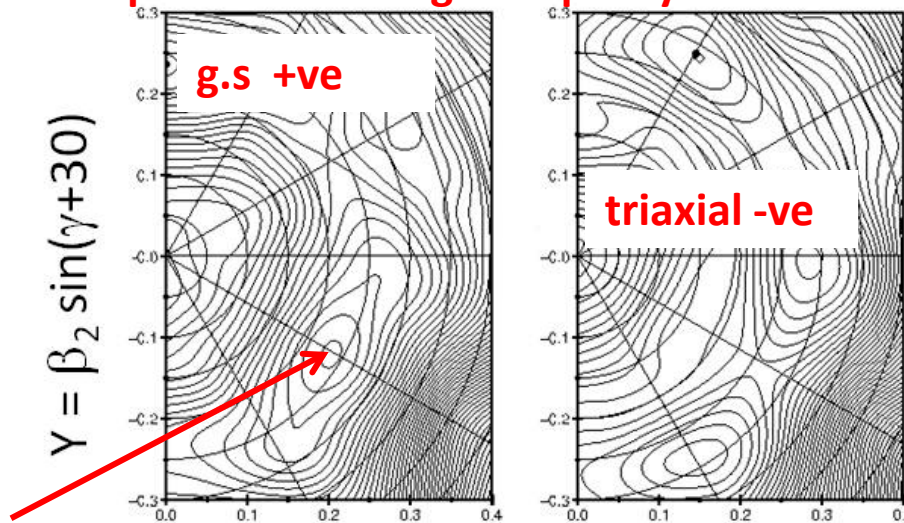


Measured hindrance for 258 keV E1 is 10^7 which is not unreasonable => isomerism caused by shape change

^{113}Tc



$Z=43, N=60 \Rightarrow$ positive and negative parity surfaces



Measured hindrance for 114 keV E1 is 3×10^6 which is not unreasonable \Rightarrow isomerism caused by shape change

oblate, $\beta_2 \sim 0.2$
5/2[422]

$$X = \beta_2 \cos(\gamma+30)$$

Summary:

Isomers observed in $^{112,113}\text{Tc}$...
...due to (predicted) shape change
Recently published in Phys Rev C82

Analysis of
beta-decay around
 ^{106}Zr is ongoing

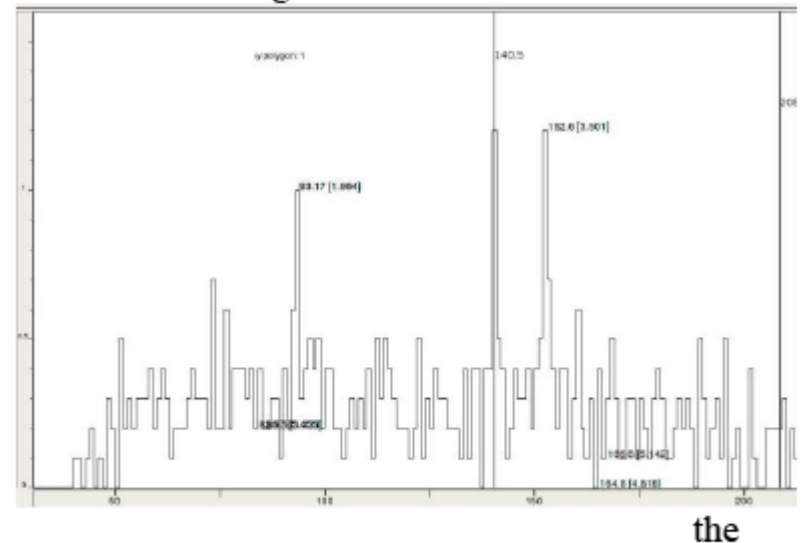


Figure 1: Gamma-rays observed following the beta decay of ^{106}Y ions, preliminary data from GSI.

Next plans:

β -gamma-gamma coincidences to get lifetimes

=> matrix elements.

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