



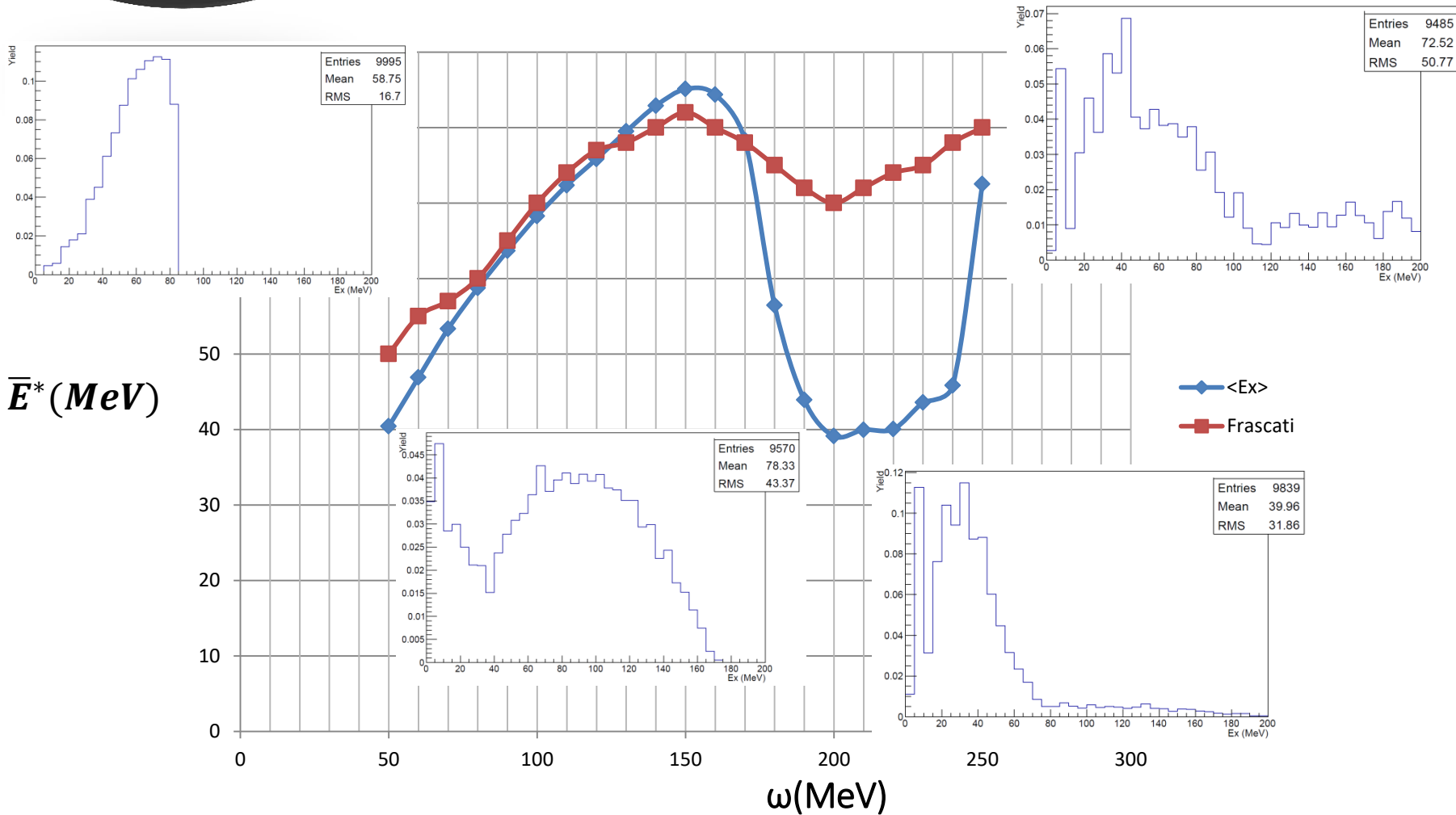
## Preactinide Simulations with CRISP

The case of  $^{184}\text{W}$

$50\text{MeV} < \omega < 250\text{MeV}$



# CRISP RESULTS - $^{184}\text{W}$





## Extraction of Mean Energy Excitation from Experiments

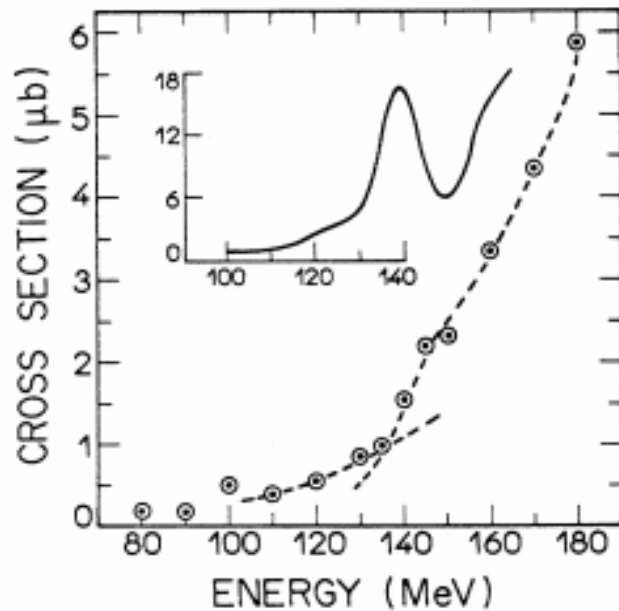
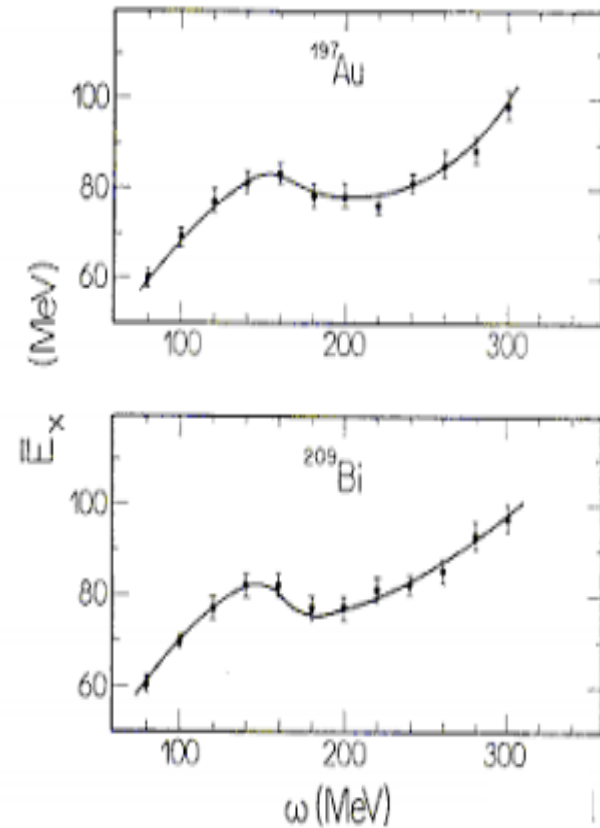
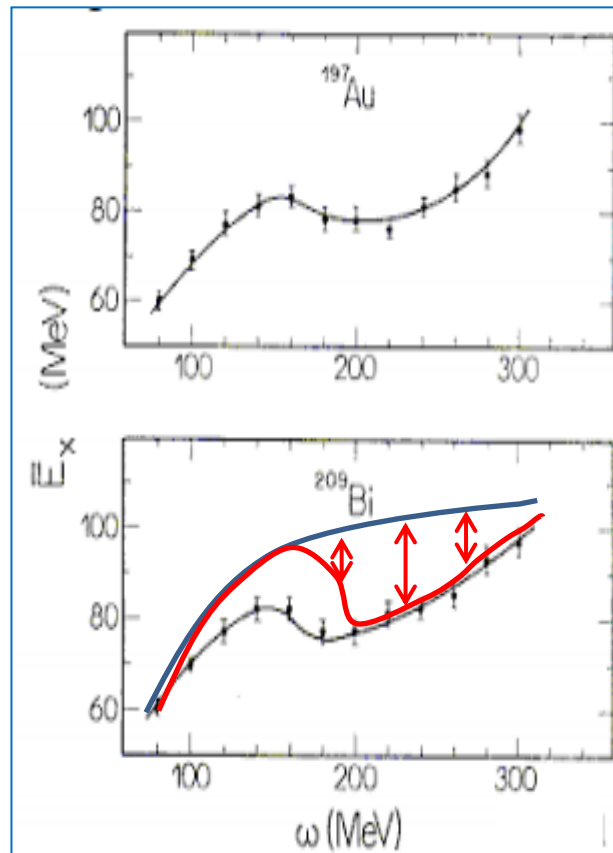
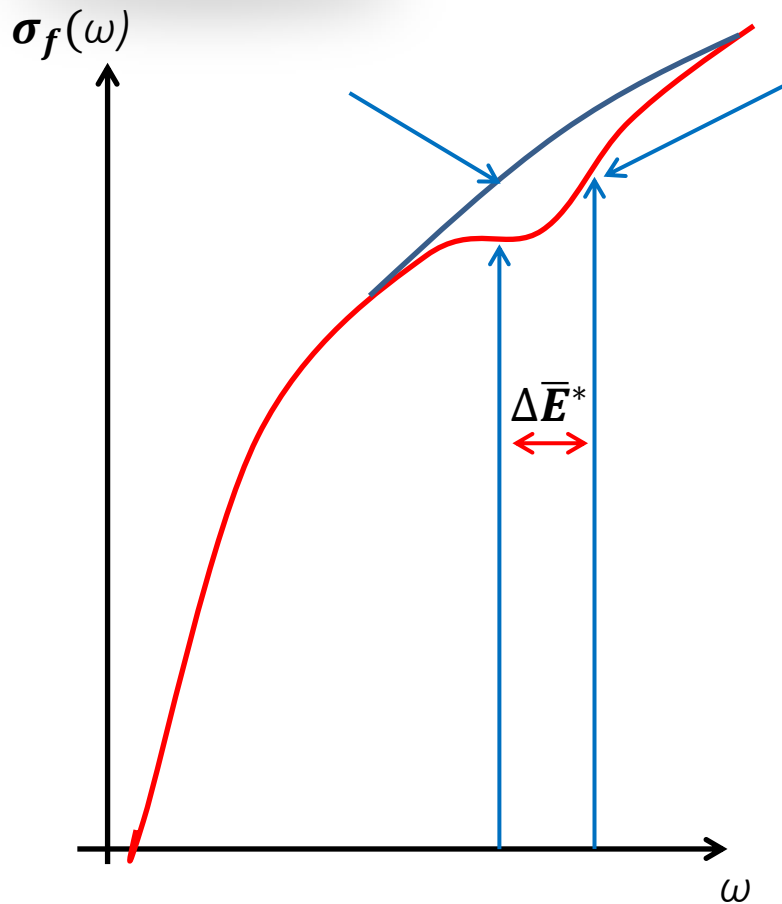


FIG. 1. Electrofiission cross section of  $^{182}\text{W}$  (data points); the dashed lines are to guide the eye. The inset shows the corresponding unfolded photofission cross section (also shown in Fig. 2).





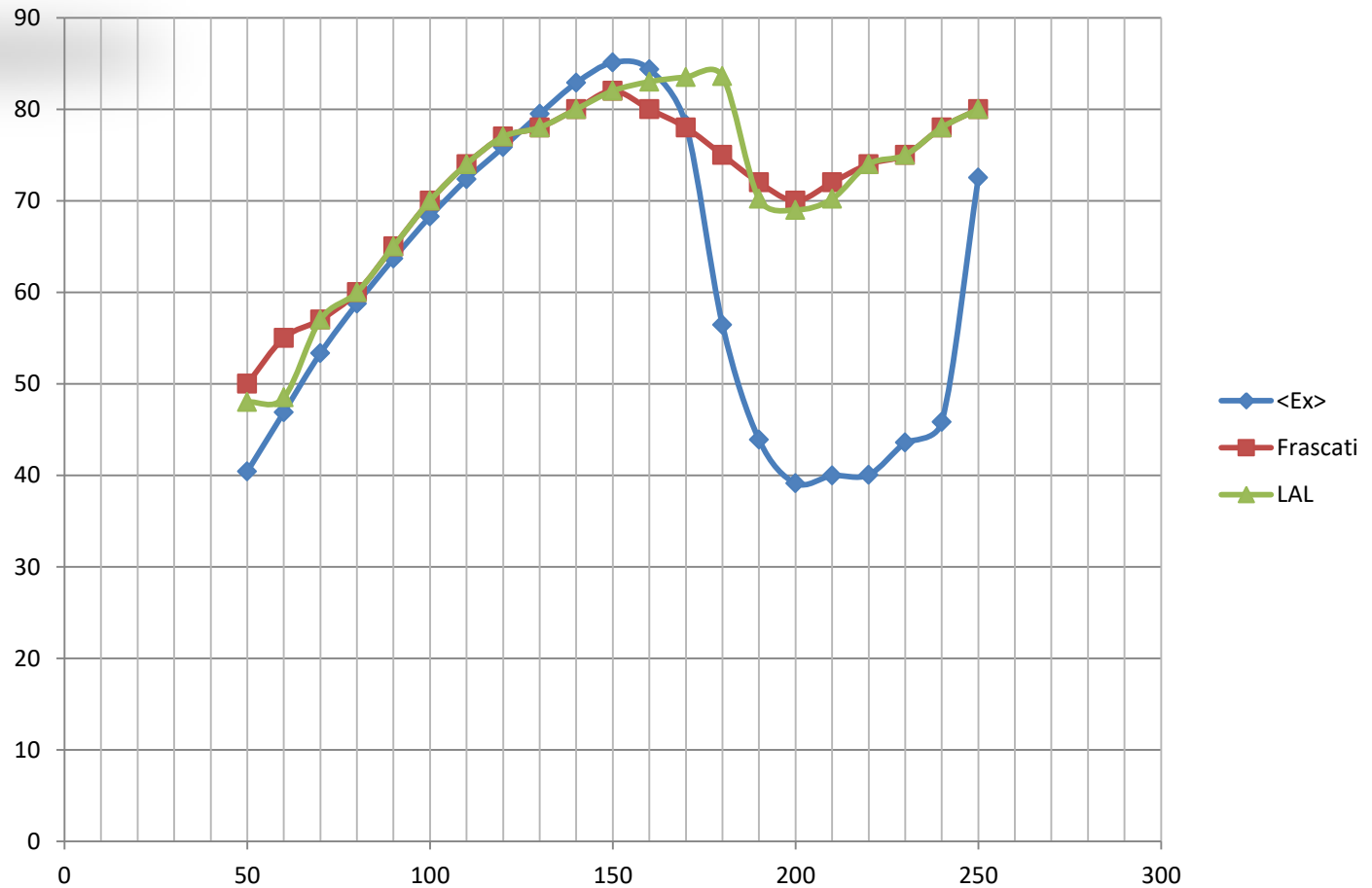
# Extraction of Mean Energy Excitation from Experiments





Extraction of Mean Energy Excitation from CRISP

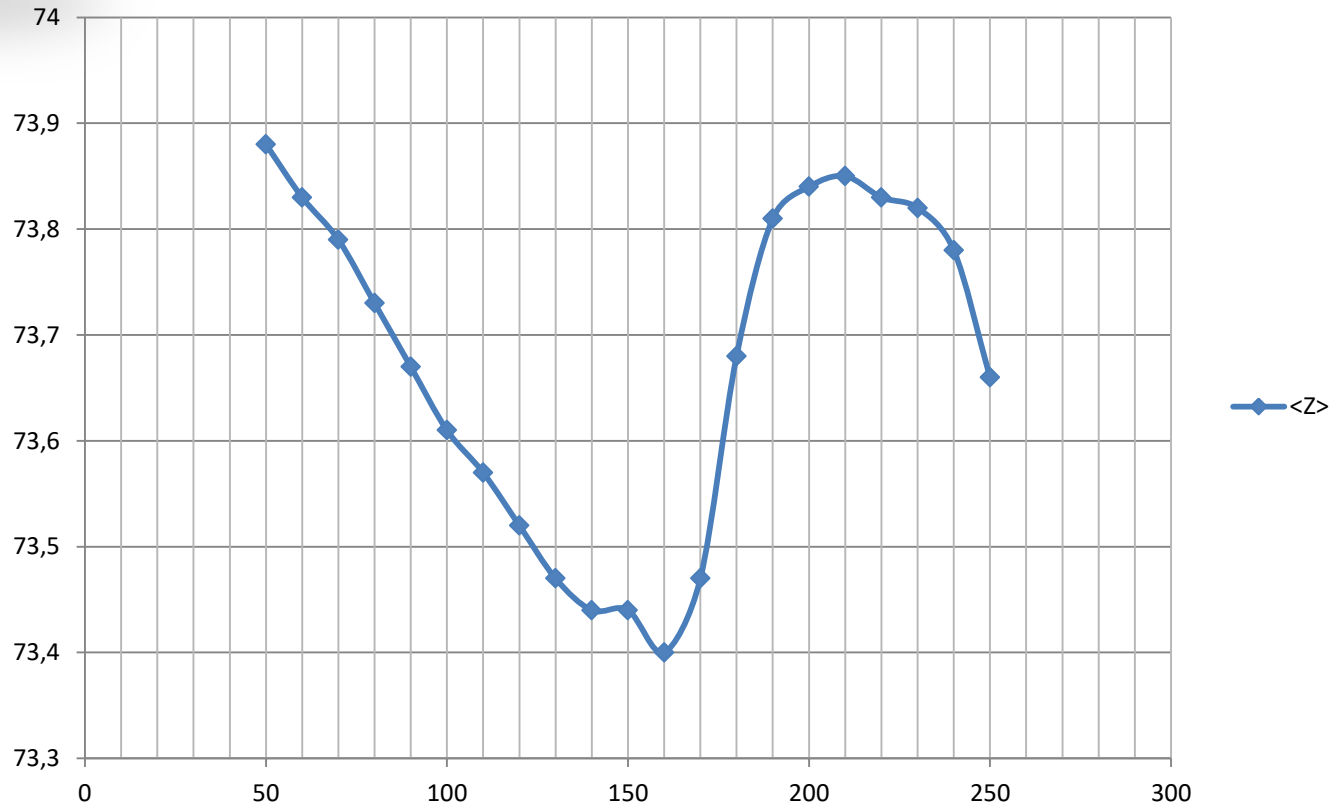
Need to add reactions type:  $\pi + N-N \rightarrow N + N$





# CRISP SIMULATIONS No problems!?

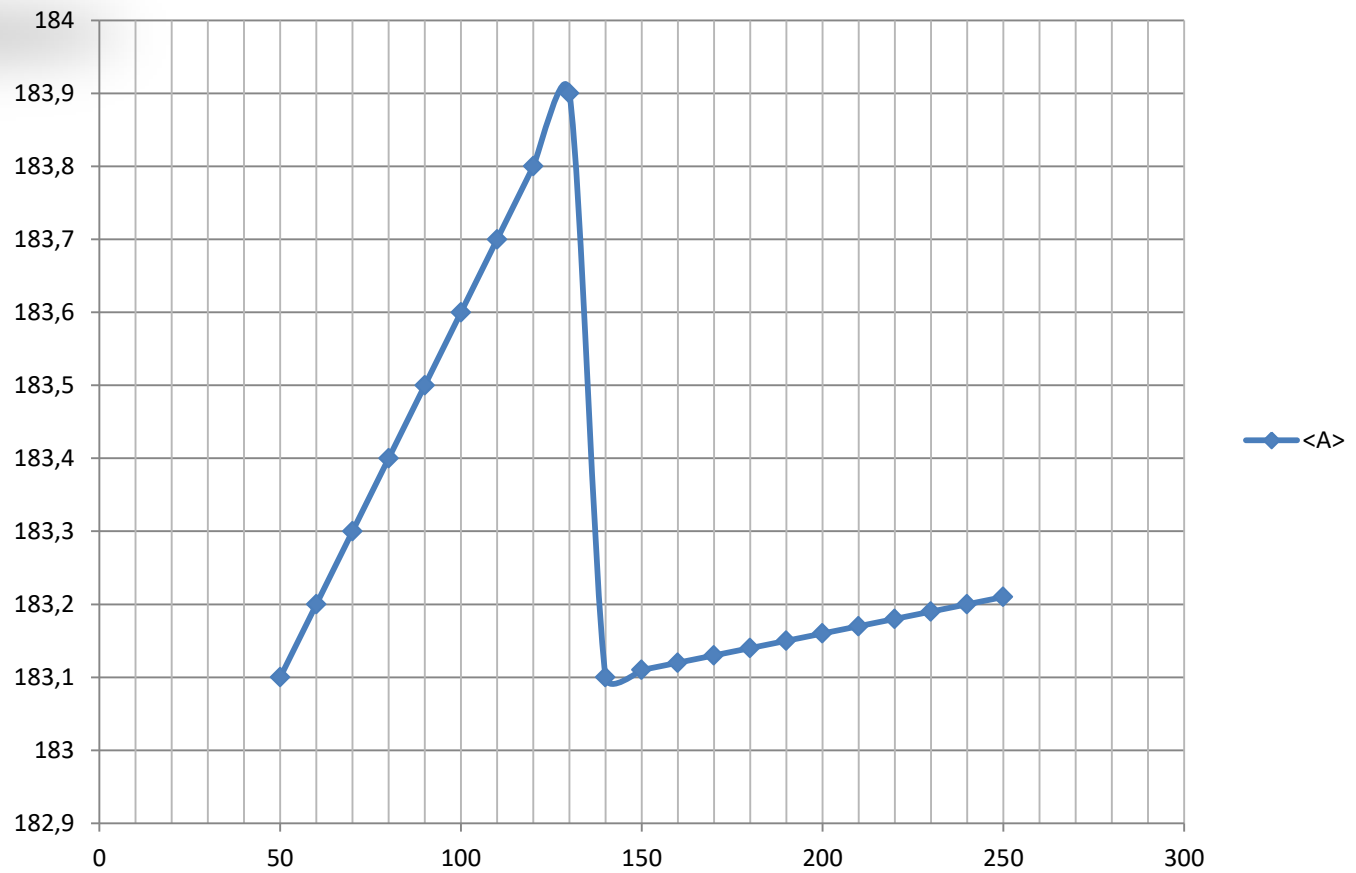
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## CRISP SIMULATIONS Very strange!

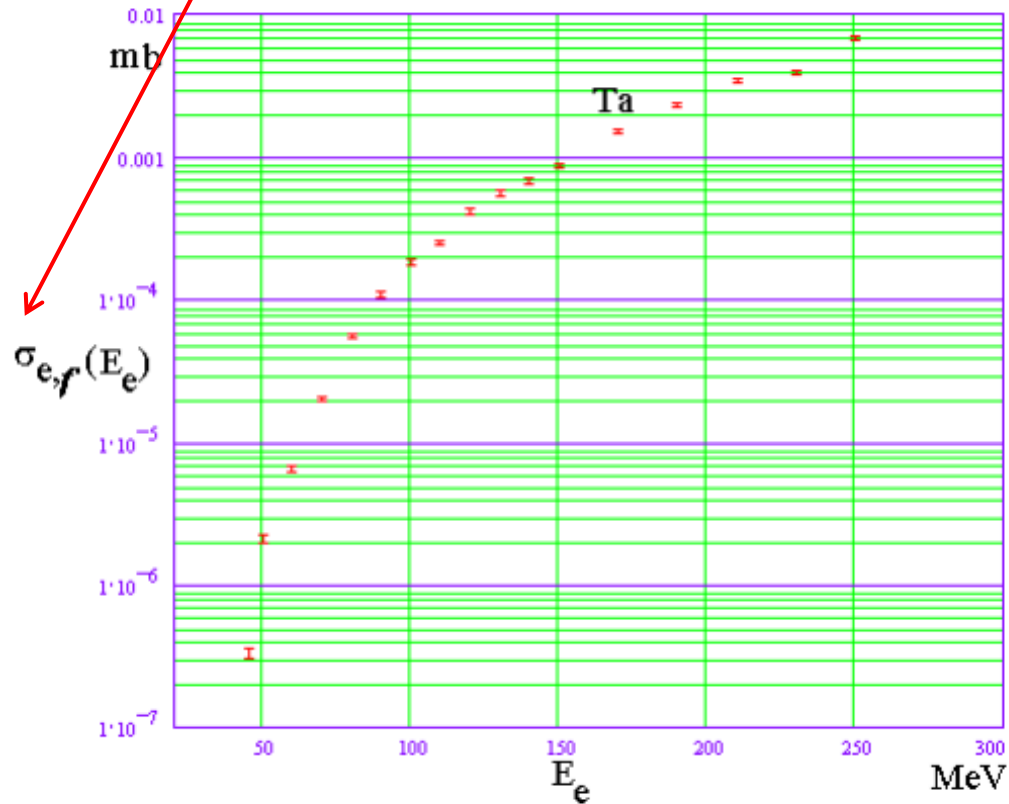
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$$\sigma_{e,f} = \sum_{\lambda,l} \int_0^{E_e} \sigma_f^{\lambda,l}(\omega) N^{\lambda,l}(E_e, \omega) \frac{d\omega}{\omega}$$

$\lambda \rightarrow$  Electric or Magnetic     $l \rightarrow$  multipolarity

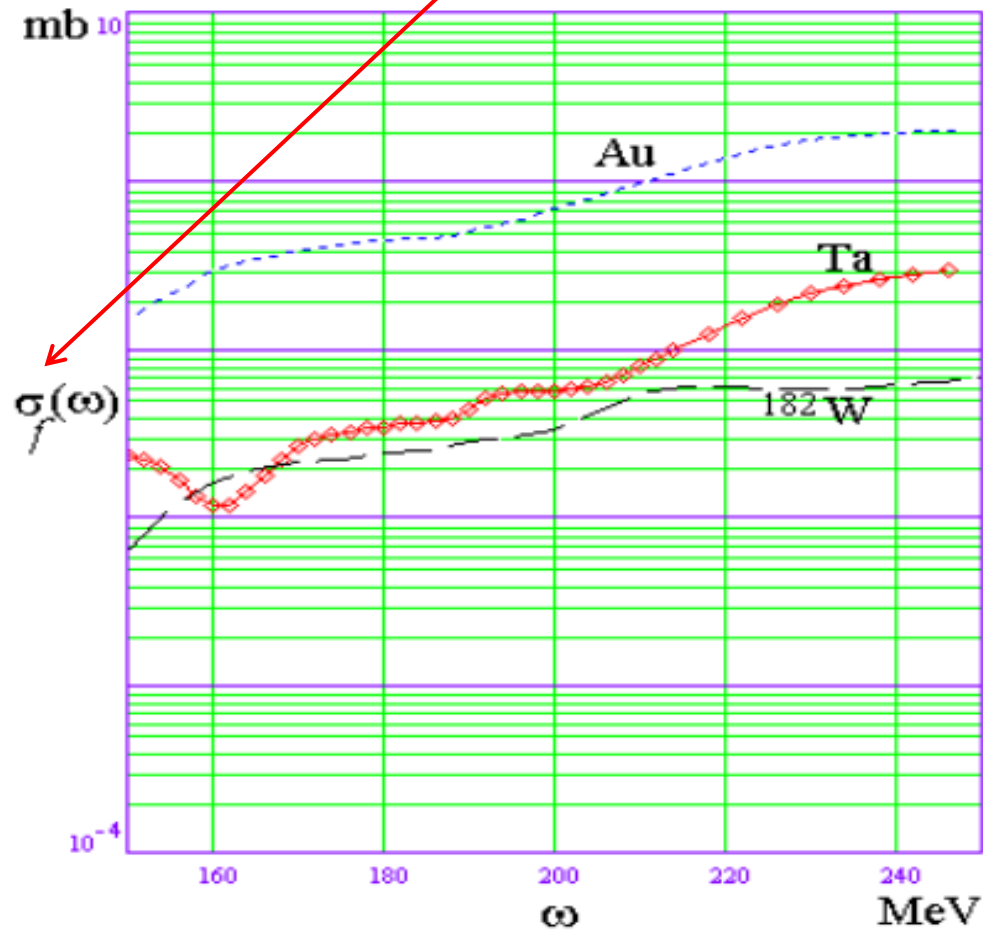






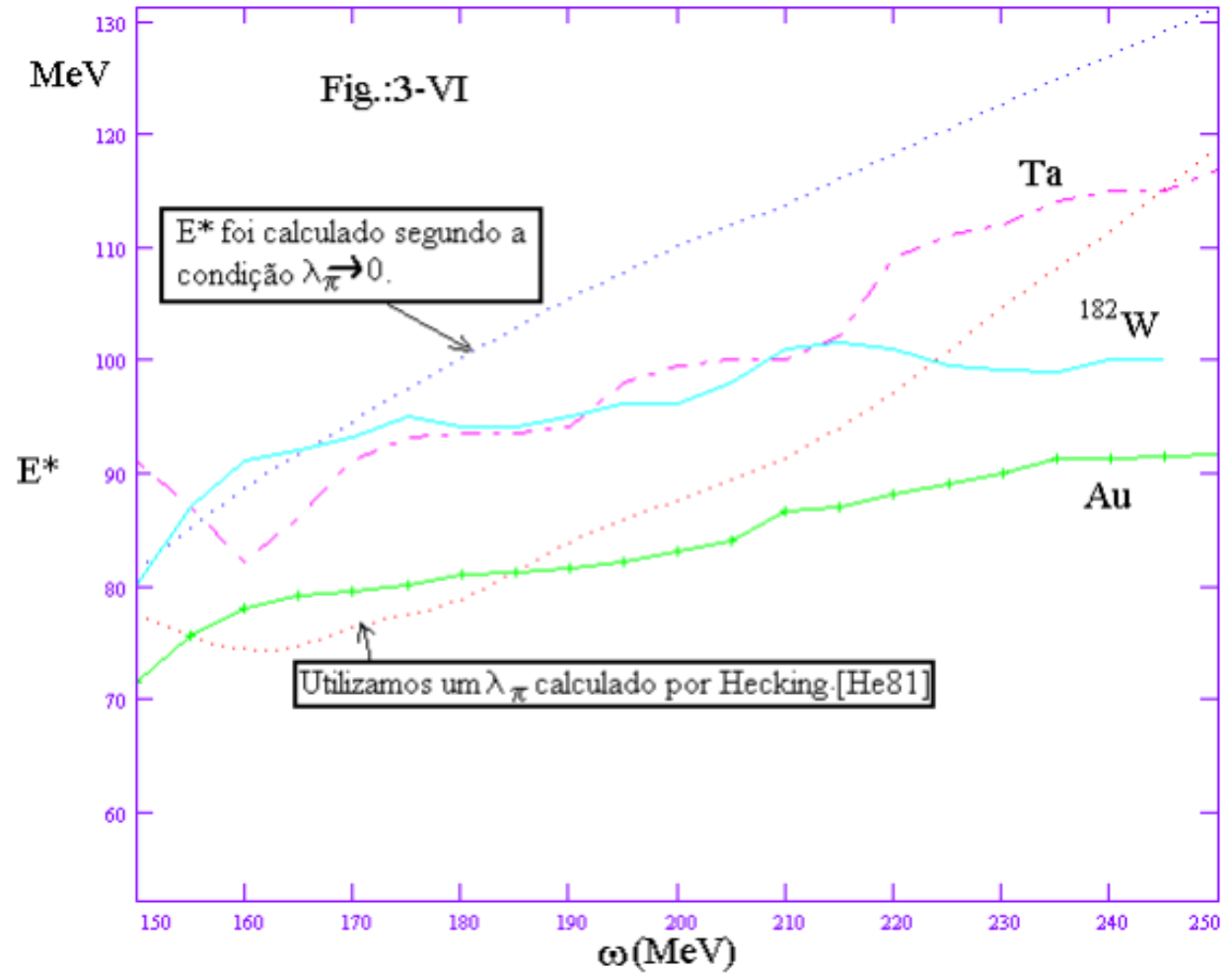
$$\sigma_{e,f} = \sum_{\lambda,l} \int_0^{E_e} \sigma_f^{\lambda,l}(\omega) N^{\lambda,l}(E_e, \omega) \frac{d\omega}{\omega}$$

$\lambda \rightarrow$  Electric or Magnetic  $l \rightarrow$  multipolarity





## Experimental Mean Energy Excitation to Preactinides





# Theoretical Modeling to CN

*Starting from an old model due to Kikuchi & Kawai we exchanged the term  $(\epsilon_0 + S)$  to protons or neutrons by the foton energy,  $\omega$ .*

$$\bar{E}^*(\omega) \approx \frac{\sigma_{NC}(\omega)}{\sigma_a(\omega)}\omega$$

*The compound cross section of compound nuclei is expressed as:*

$$\sigma_{NC}(\omega) \approx K \frac{\sigma_a(\omega)}{\omega} \bar{E}^*(\omega)$$

*The constant  $K \sim 5$  was added to fit general data .*



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