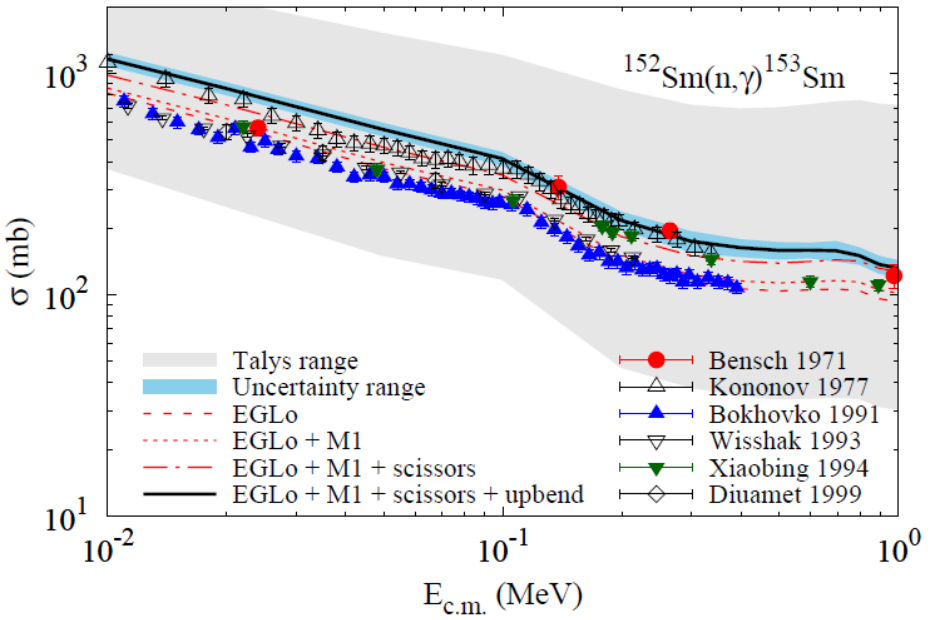
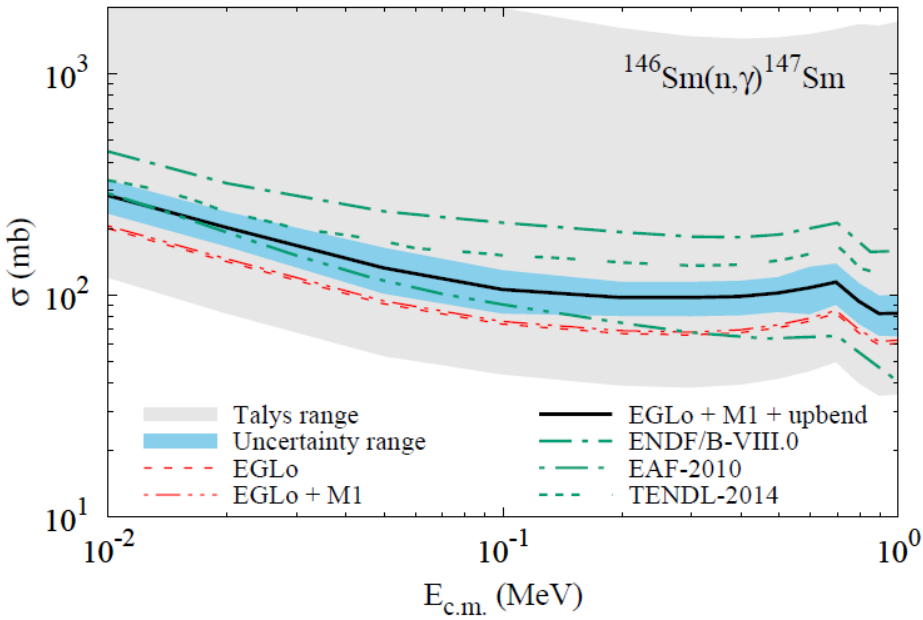


# Indirect determination of neutron-capture cross sections for Sm isotopes



Neutron-capture cross sections in the energy range of 0.01 to 10 MeV for  $^{146};^{148};^{150};^{152}\text{Sm}$  nuclei were calculated using the  $\gamma$ -ray strength and level density functions extracted from the Oslo-type experiments. The uncertainties in the cross section values were determined using a Monte Carlo Method to propagate the uncertainties in the experimentally extracted parameters for the  $\gamma$ -ray strength and level density functions. For the  $^{148};^{150};^{152}\text{Sm}$  isotopes, the calculated cross sections are in a good agreement with the existing experimental data and for the  $^{146}\text{Sm}$  nucleus, an experimental (n,  $\gamma$ ) cross section is reported for the first time.



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