

New $^{168, 169, 170}\text{Tm}$ and $^{203, 205}\text{Tl}$ evaluations

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Nuclear Data Week, Nov. 14-18, 2011



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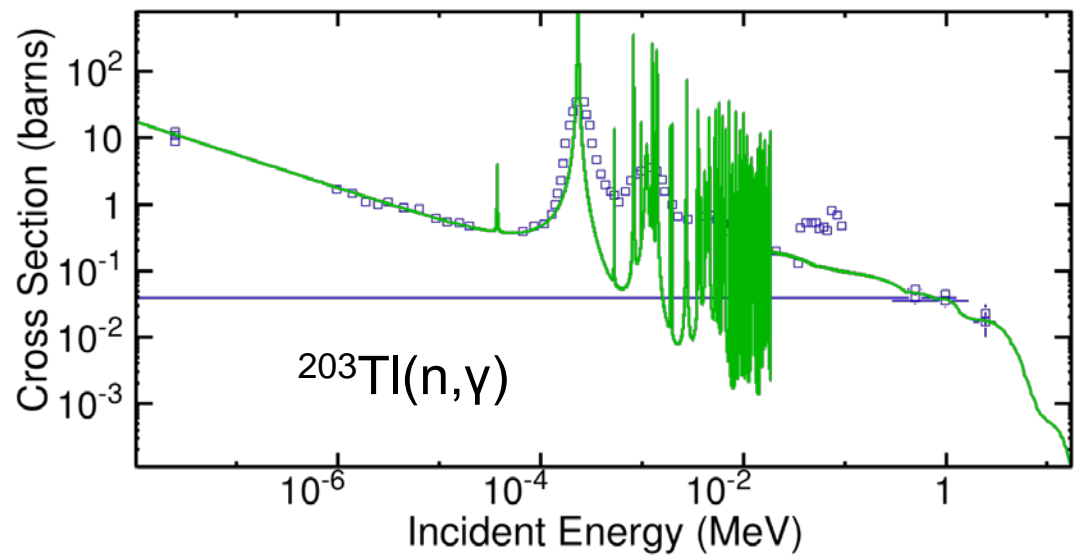
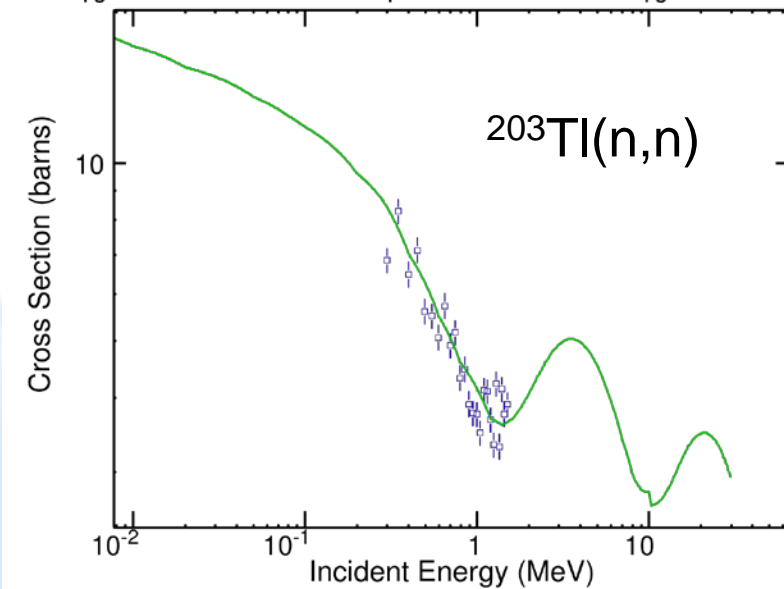
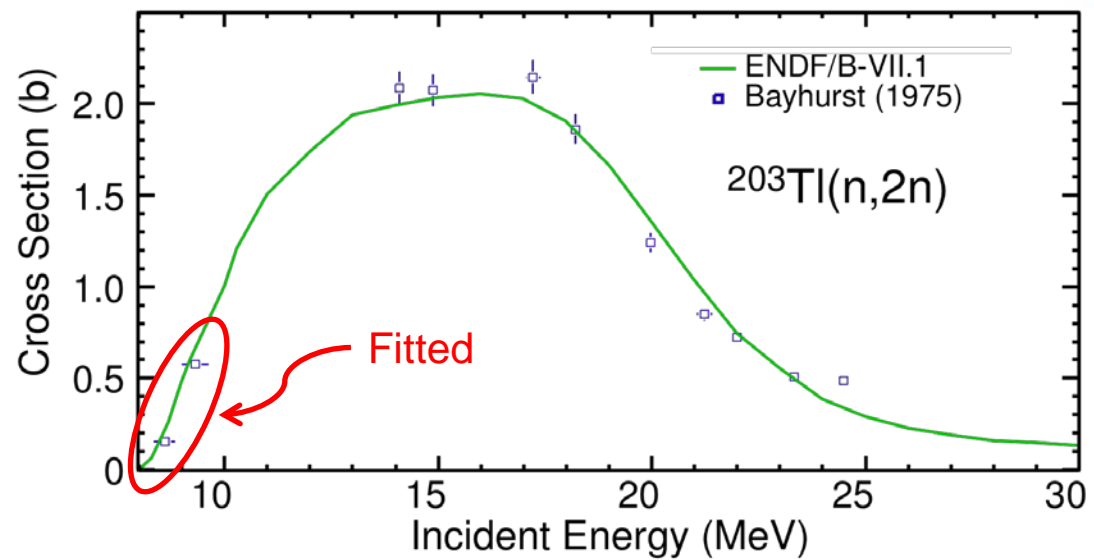
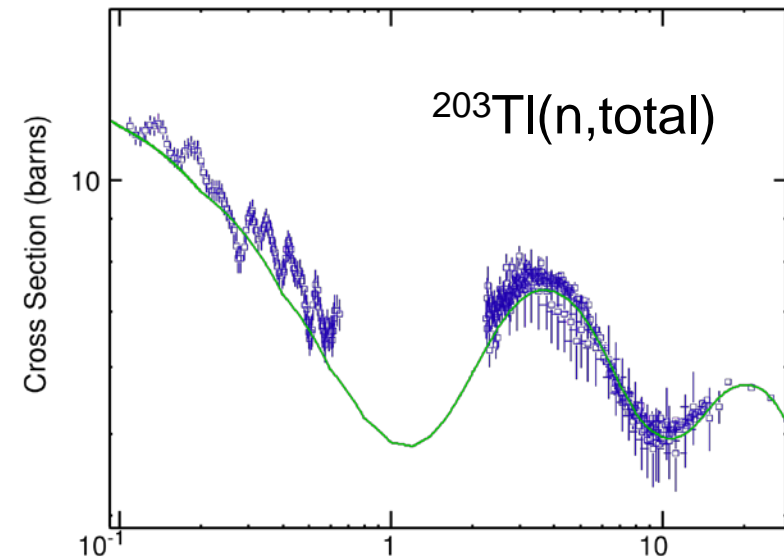
Short Introduction

- New BNL evaluations for $^{168,169,170}\text{Tm}$ and $^{203,205}\text{Tl}$
- Motivation: To extend LANL dosimetry files, enabling full-scale transport calculations

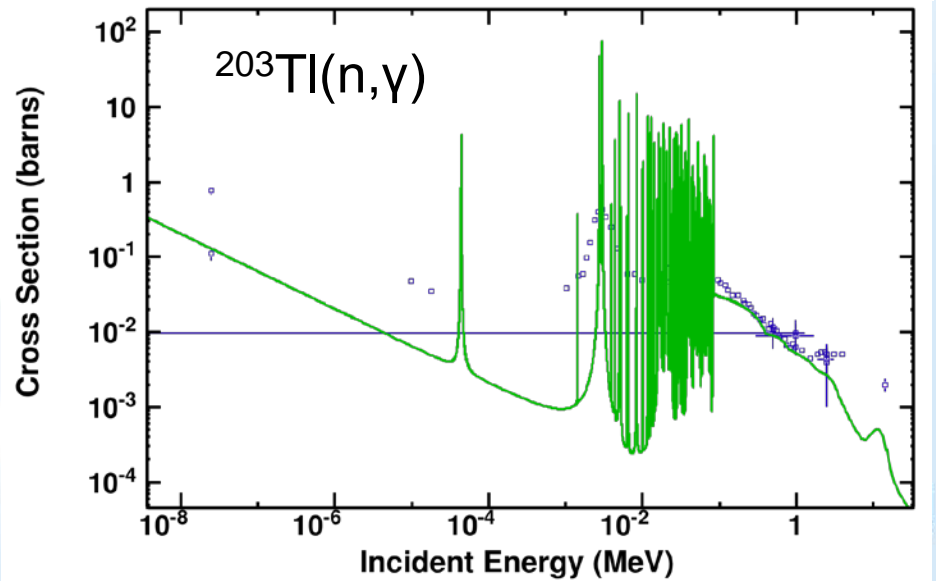
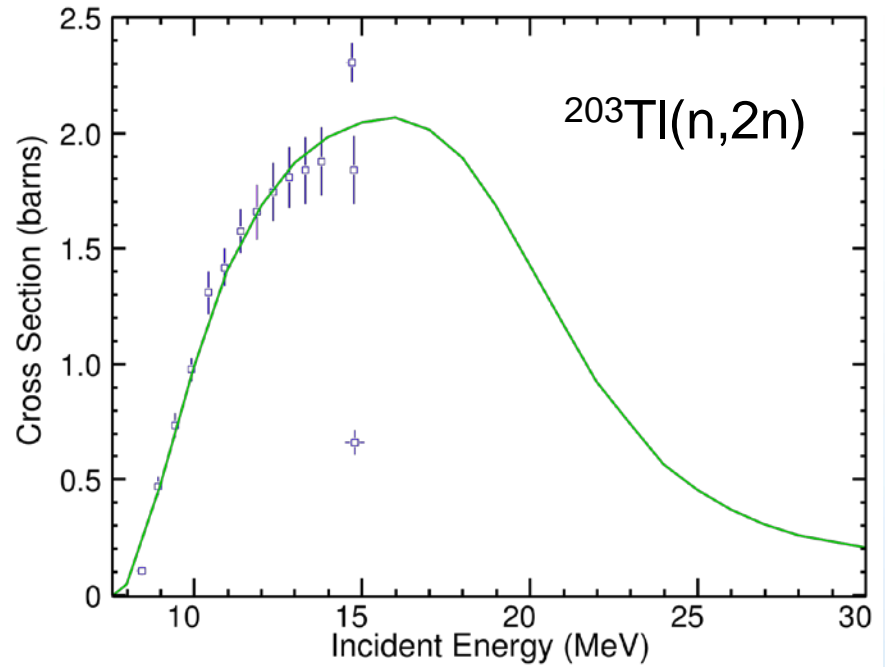
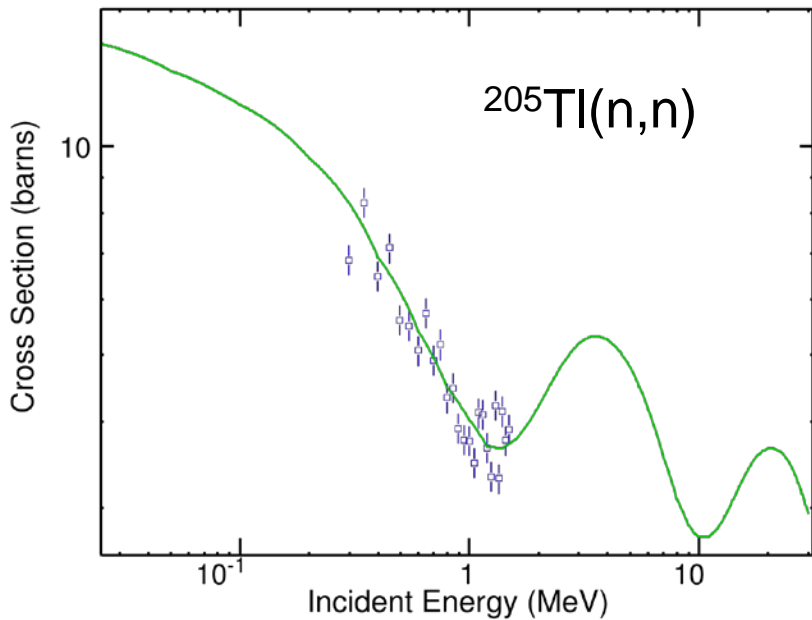
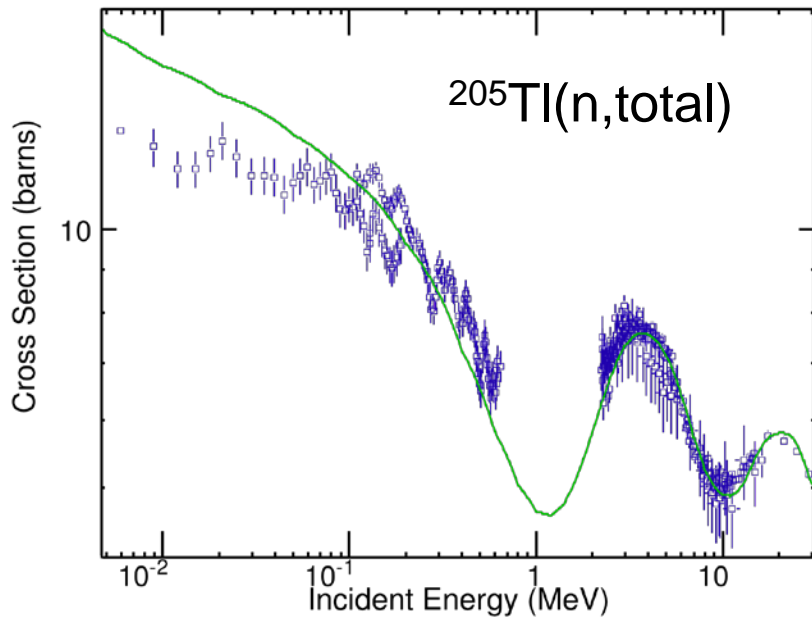
Procedure

- Resonance region: Atlas of Neutron Resonances
- Fast region: Start from default values for EMPIRE parameters
- Tm: used Kalman to find new set of parameters; TI: new parameters found manually
- Models adopted:
 - Coupled channels
 - Level density: Microscopic HFB for ^{205}Tl , empire-specific for others
 - Pre-equilibrium (MSD, MSC, PCROSS)
 - Hauser-Feshbach
- $^{168,170}\text{Tm}$: (n,2n) and capture replaced by LANL evaluations
- ^{169}Tm : capture replaced by LANL (10% correction), (n,2n) replaced by IRDF-2002 (Zolotarev)

^{203}Tl

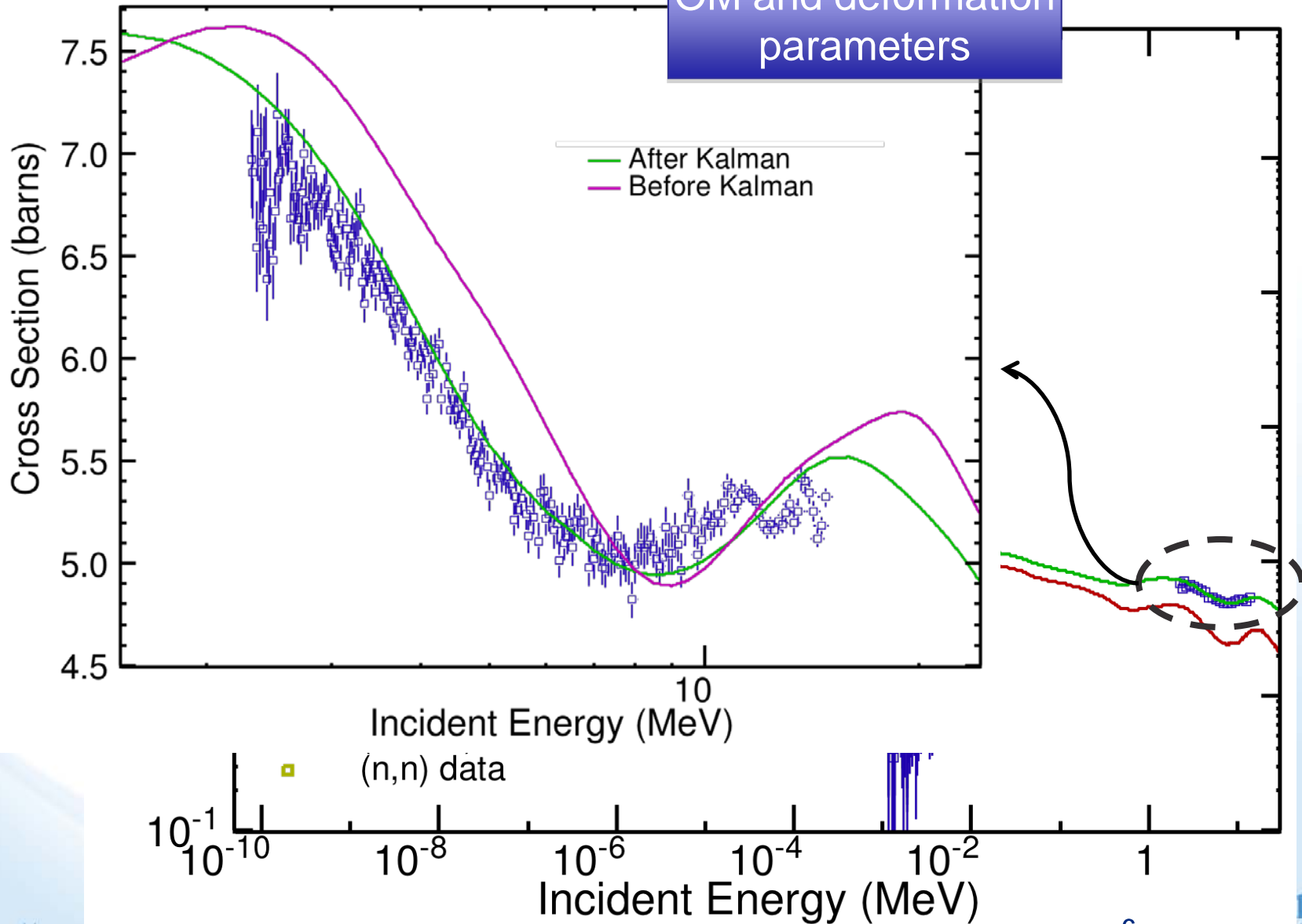


^{205}Tl

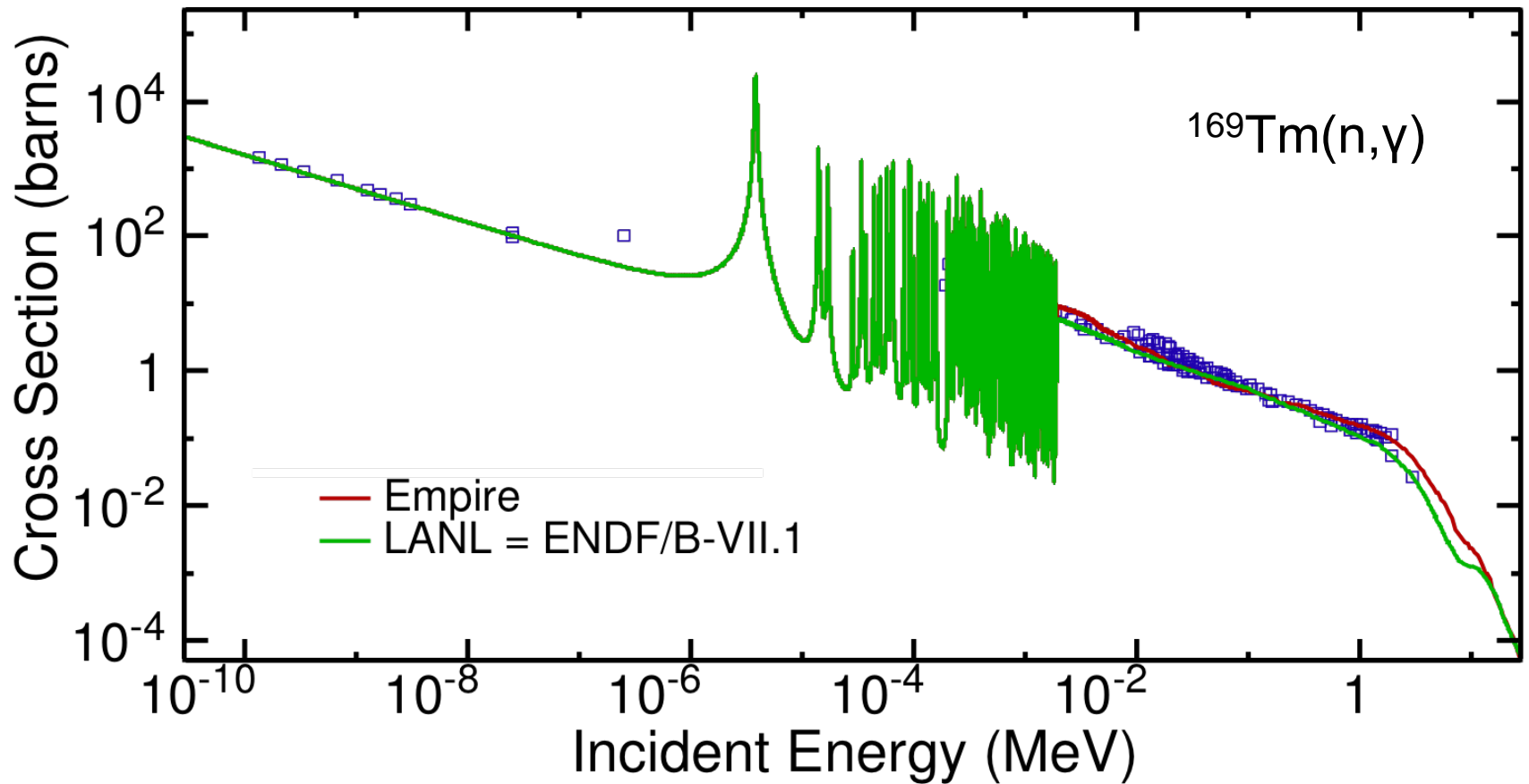


^{169}Tm

OM and deformation parameters



$^{169}\text{Tm}(n,\gamma)$



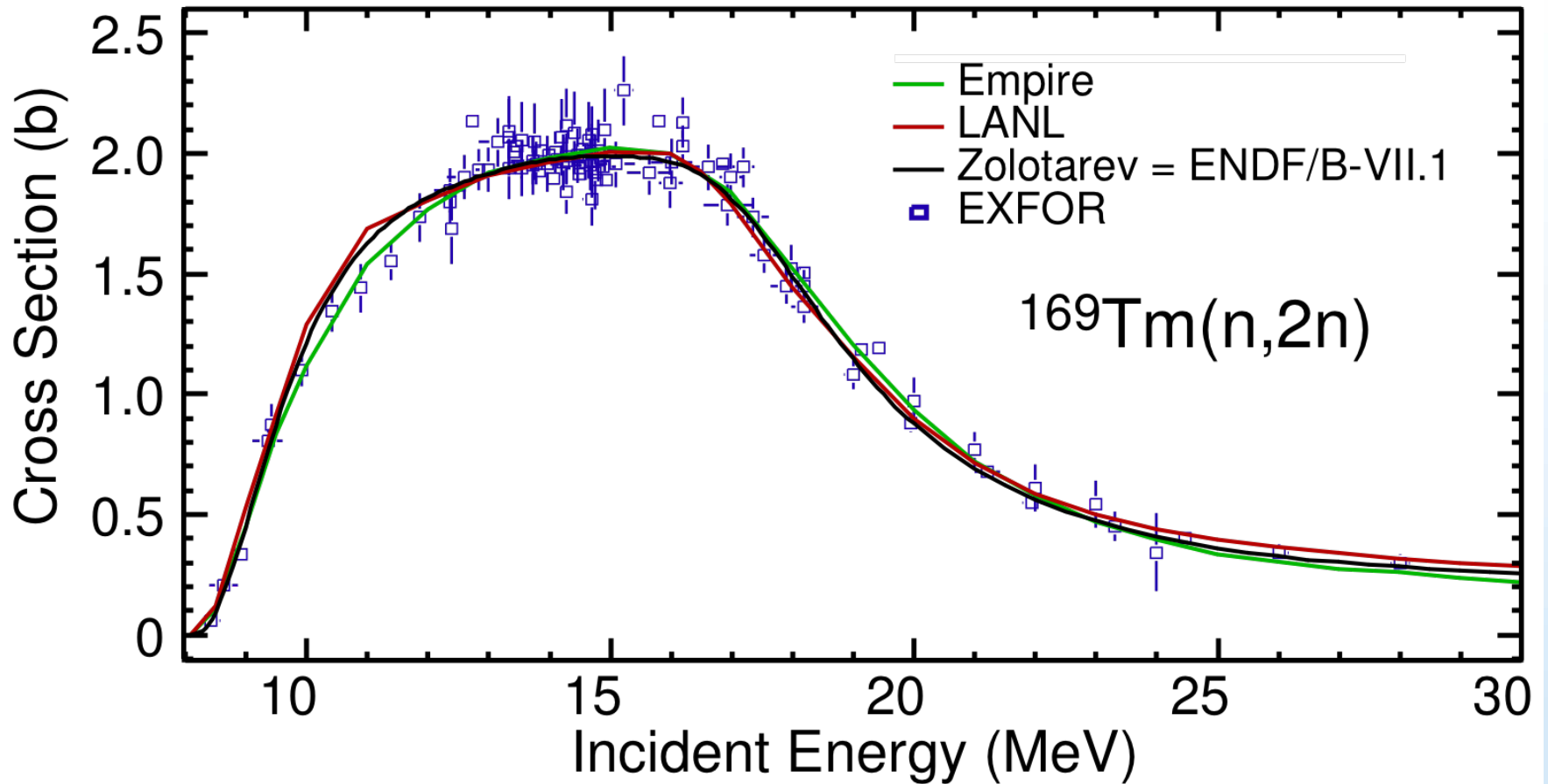
Replaced by LANL evaluation,
reduced by 10%

Doorway state:
Small modifications are
expected before VII.1

release

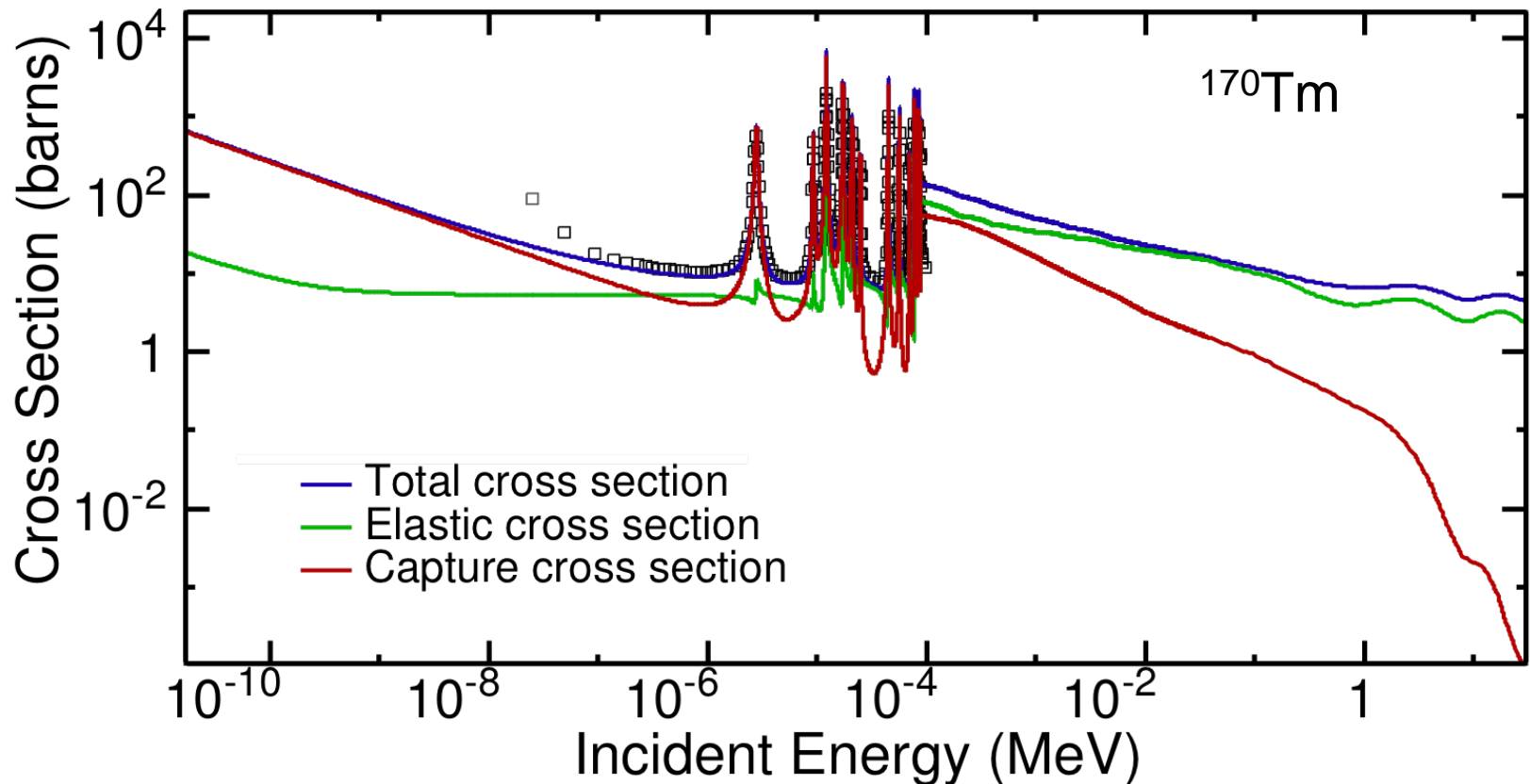
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$^{169}\text{Tm}(n,2n)$



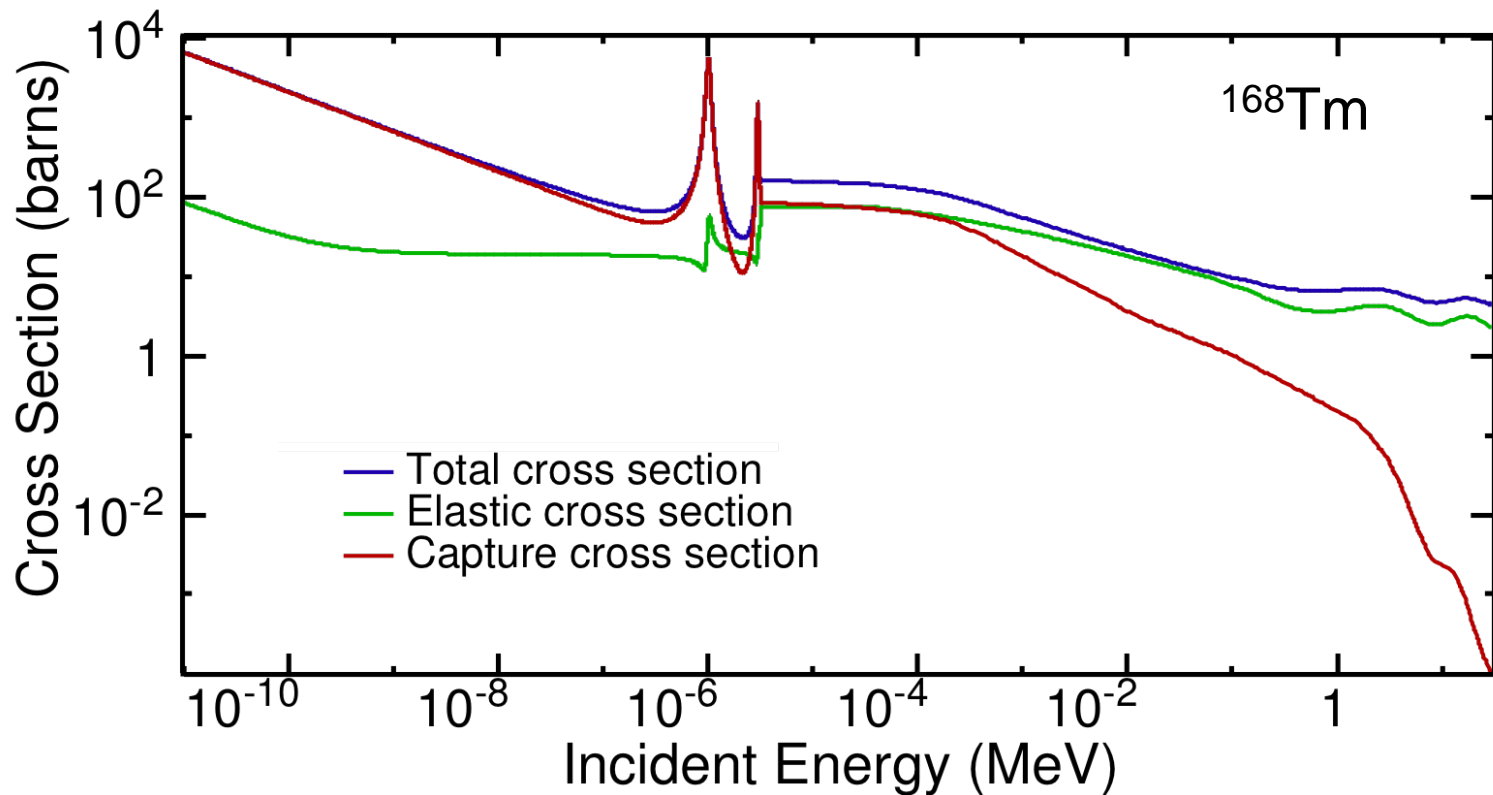
Replaced by IRDF-2002
evaluation (Zolotarev)

^{170}Tm



- No data: same fast region parameters as ^{169}Tm
- (n,2n) and capture replaced by LANL evaluations

^{168}Tm



- No data: same fast region parameters as ^{169}Tm
- No parameters in Atlas: resonances generated by Empire
- (n,2n) and capture replaced by LANL evaluations