

# $^{242m,g}\text{Am}$ , $^{243}\text{Am}$ Evaluations

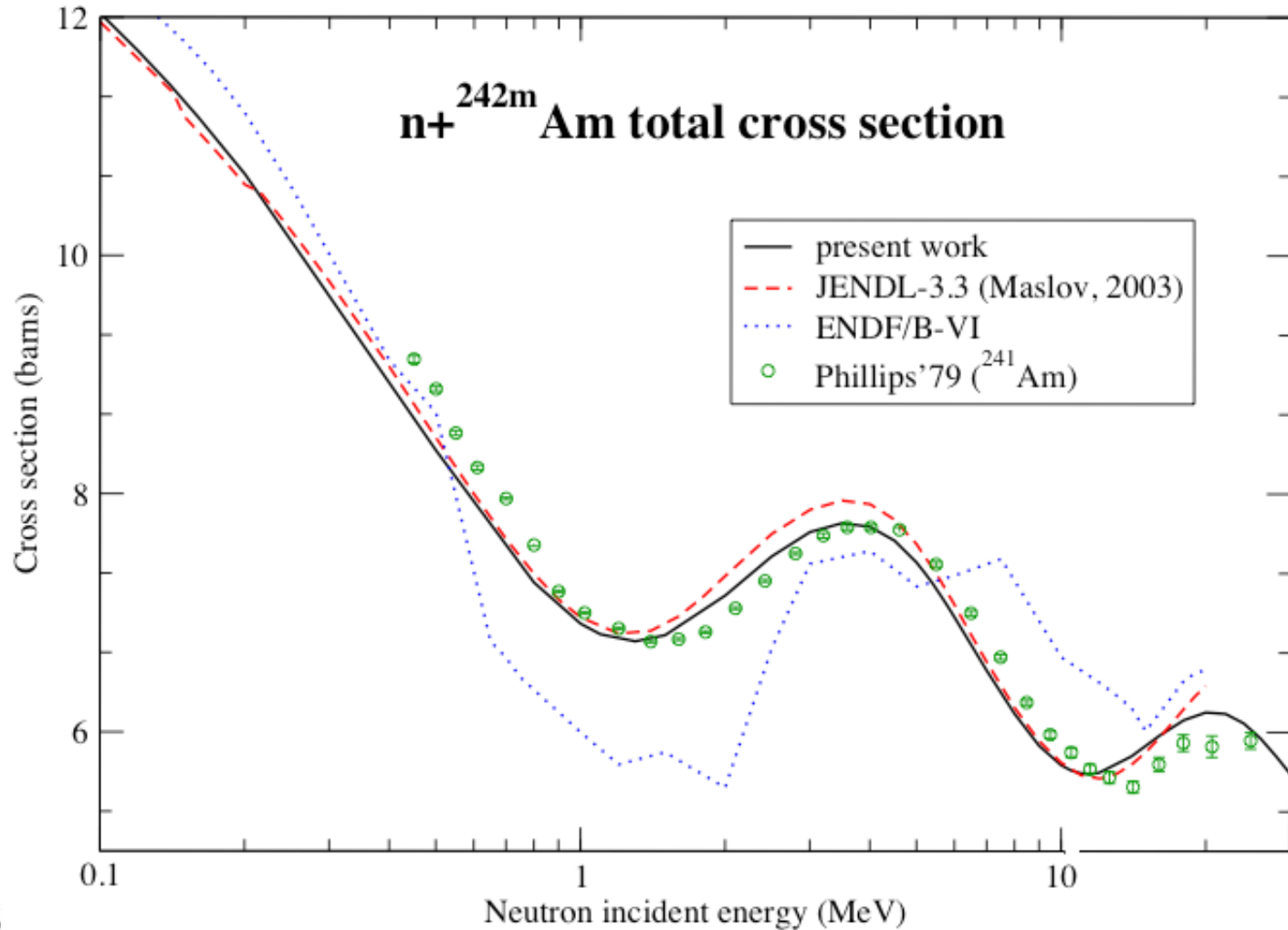
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## $n+^{242m}\text{Am}$ Evaluation completed in Sep. 2004

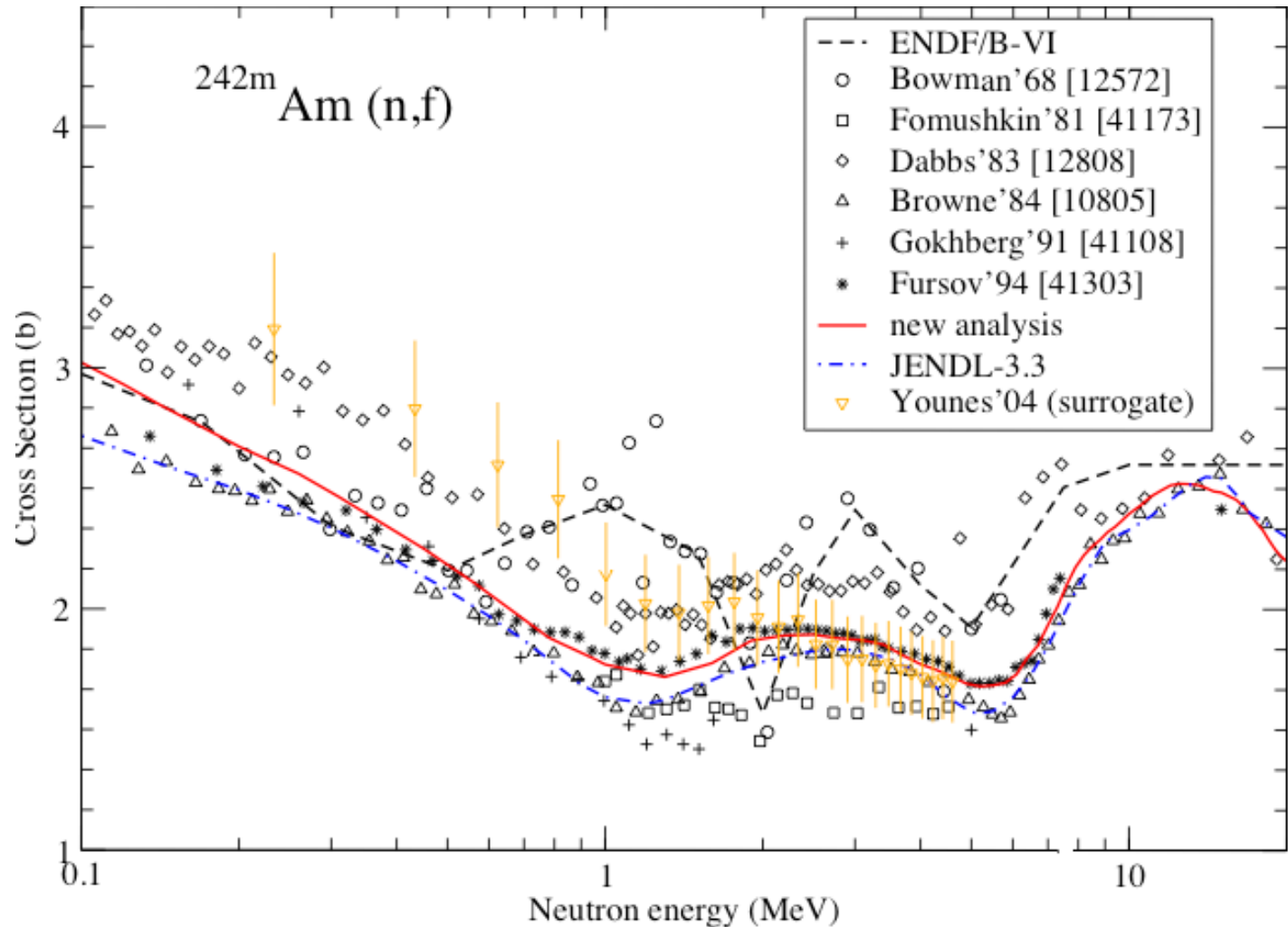
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- New evaluation from 0.1 to 20 MeV neutron incident energies.
- Coupled-channels calculations using the ECIS96 code (J.Raynal); three coupled levels, built on the metastable state ( $5^-; 141\text{yr}$ ).
- Optical potential parameters derived from P.G.Young work for  $^{241,243}\text{Am}$  [P.G.Young, LA-UR-95-3654, RIPL-2]
- Excitation of inelastic levels obtained with ECIS96.
- New fission cross section from Bayesian analysis of experimental data.
- Completed ENDF file (Sep. 2004). OK with checking codes. Not yet tested in NJOY.

# Total reaction cross section



# Neutron-induced fission cross section



# New Evaluations of $n+^{242g}\text{Am}$ , and $n+^{243}\text{Am}$

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- AFCI milestones for FY05.
- $n+^{242g}\text{Am}$  ( $T_{1/2} \sim 16$  hours).
  - ENDF/B-VI (Benjamin et al., 1975), JENDL-3.2 (Nakagawa et al., 1980)
  - New ECIS & GNASH calculations
  - $(n,f)$  cross section data from surrogate experiments (Younes, Britt, Becker, 2004)
- $n+^{243}\text{Am}$ : revision of Young's work from 1991.
  - ENDF/B-VI evaluation file (Weston et al., 1980), JENDL-3.2 (Nakagawa, 1988)
  - New  $(n,f)$  cross section data from Laptev *et al.* (2004)
  - Others?