

# Np-237 Fission Data

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## New Experimental Data at LANSCE

- Measurements by F. Tovesson and T. Hill
- From thermal all way up to 200 MeV, ratio to U-235.
- New experimental data indicate:
  - JENDL-3.3 resonance parameters look better than ENDF/B-VI
  - Cross sections above 1 MeV are almost consistent with ENDF/B-VI

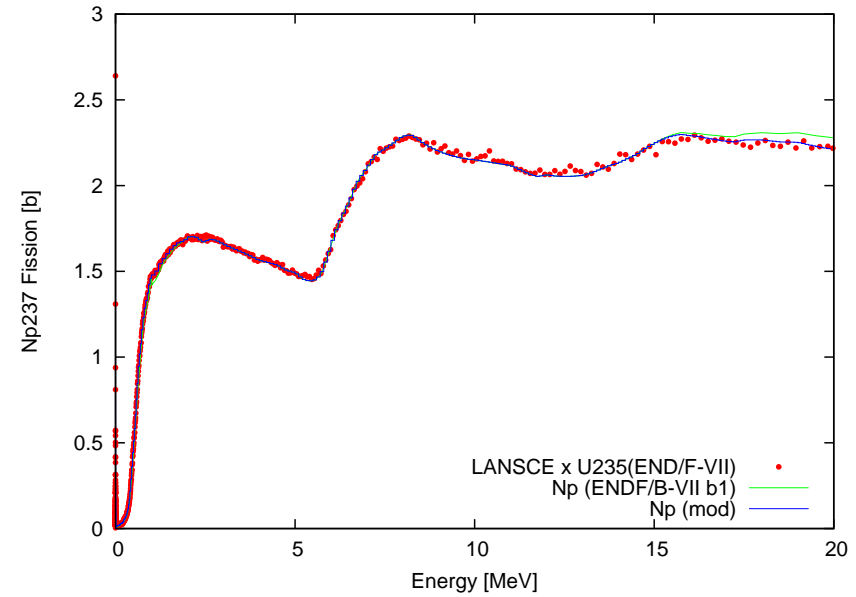
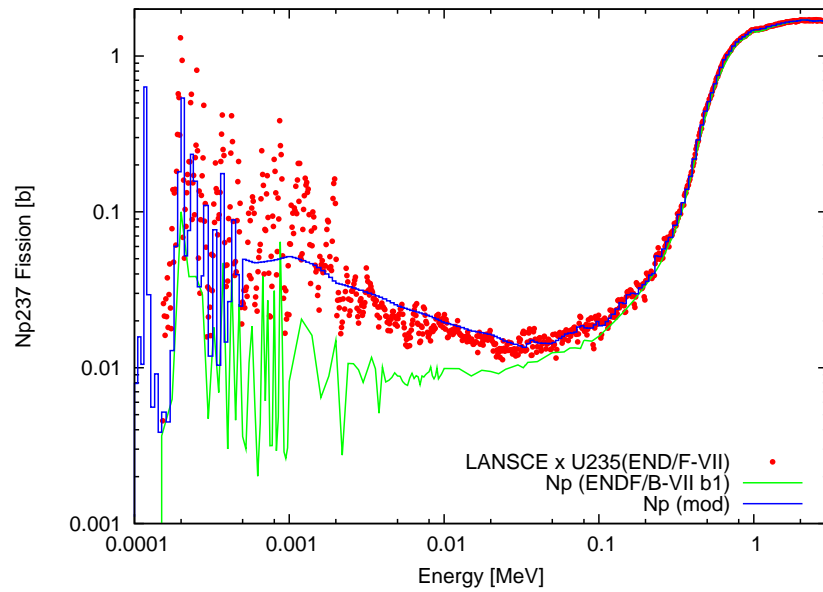
## New Evaluation

- JENDL-3.3 resonance parameter by Nakagawa was adopted, with some modification in the unresolved range.
- ENDF/B-VI cross sections were slightly adjusted above 15 MeV

## Covariance

- Covariance data are not provided. However, Tovesson et al. have worked on the evaluation of realistic experimental covariance data.

# Comparison with LANSCE Data



## Remarks

- Sub-threshold fission data are well reproduced.
- Problem in capture data reported : Harada et al. reported that thermal capture should be 170 b, while JENDL resonance parameter gives 162 b.
- Since the modifications were made in the resonance and above 15 MeV regions, where fast criticality benchmark tests are not so sensitive, the neptunium sphere benchmark results do not change. For  $\beta$ -2  $k_{\text{eff}}=0.9954 \pm 0.0002$ , and the  $\beta$ -3 result is  $0.9956 \pm 0.0002$  (R.D. Mosteller).