



# State of the EMPIRE

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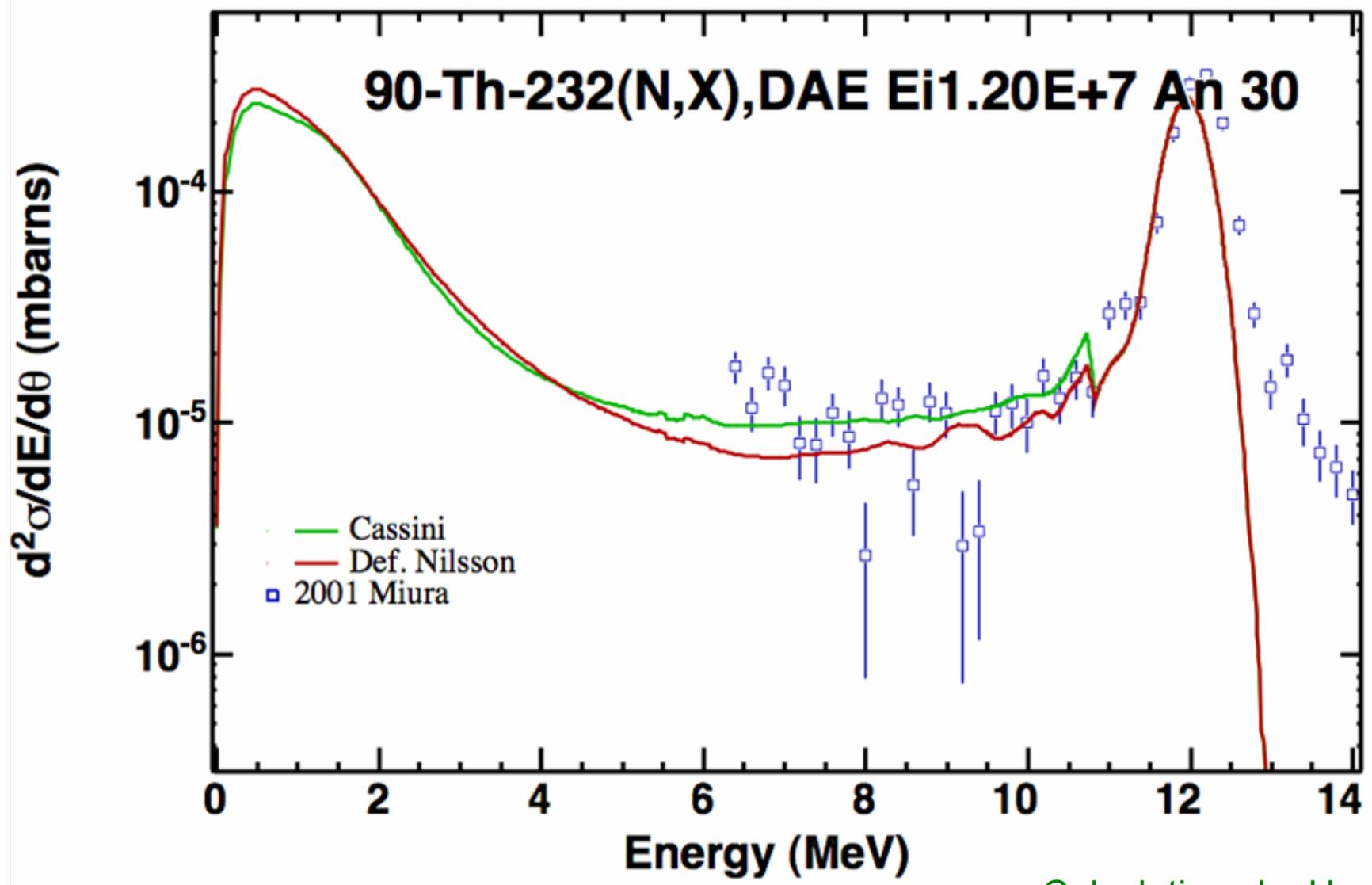
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[www.nndc.bnl.gov/empire/](http://www.nndc.bnl.gov/empire/)*

# Summary of recent changes

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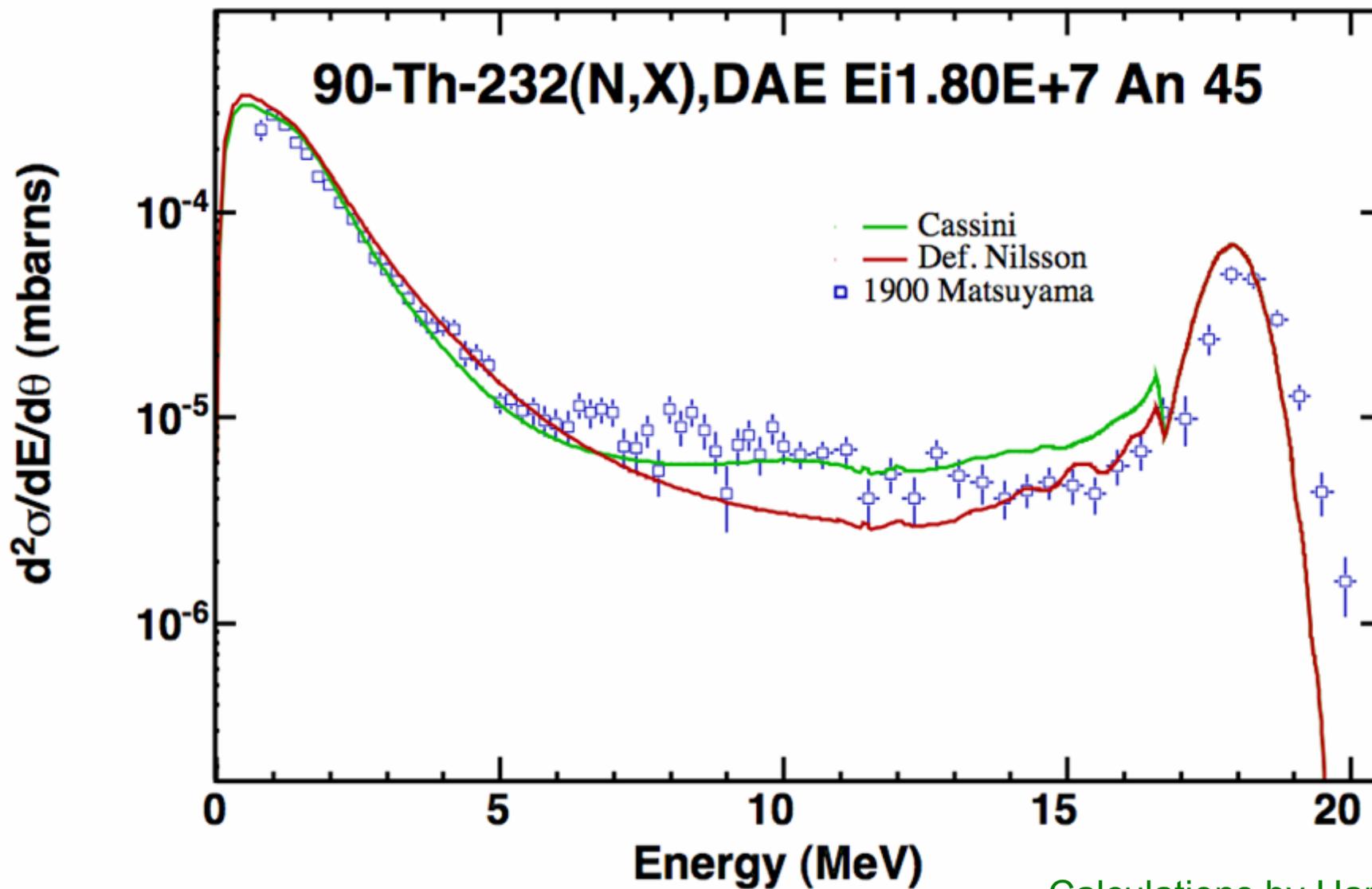
- ❑ Calculation, formatting and plotting of isomers
- ❑ Processing capability added to write the scattering radius into File-2
- ❑ Options are partially implemented to use average radiation width, neutron width, and resonance spacing, to create fake resonance file (MF=2).
- ❑ EXFOR library updated to January 2007 along with the retrieval system
- ❑ Moments of inertia (spin distribution parameter) controlled from the input
- ❑ Conceptual work continued on the resonance module
- ❑ Parity dependent level densities (HFBCS available, EMPIRE-specific to be developed)
- ❑ Further refinements of the fission channel
- ❑ Number of modifications improving stability, flexibility, and usage
- ❑ Deformed MSD with Cassini potential

# Deformed MSD with Cassini single particle levels



Calculations by Harm Wienke

# Deformed MSD with Cassini single particle levels



Calculations by Harm Wienke

# Applications, documentation, release

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- ❑ “Low-fidelity covariances” - calculations of sensitivity to 15 parameters for ~300 targets (see contribution by Marco Pigni)
- ❑ Massive calculations (654 materials from JEFF-3.1/A up to 60 MeV) performed on the NNDC cluster – test of the formatting and the code itself.
- ❑ Extensive paper on EMPIRE (to be published in Nuclear Data Sheets in December 2007)
- ❑ EMPIRE-3.0 expected to be released early 2008



The  
End