

NJOY Status

Presented at a Meeting of the
Cross Section Evaluation Working Group (CSEWG) at
Brookhaven National Laboratory
November 4 – 6, 2008

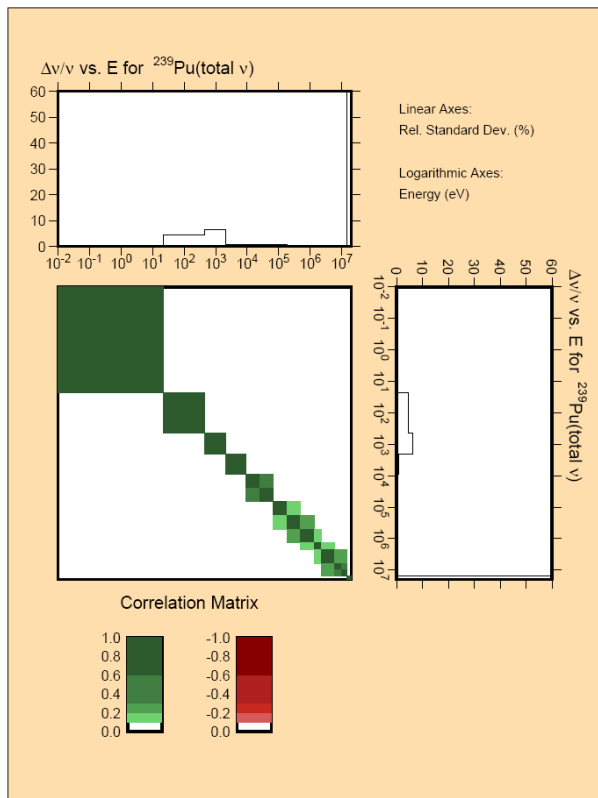
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NJOY99 Status

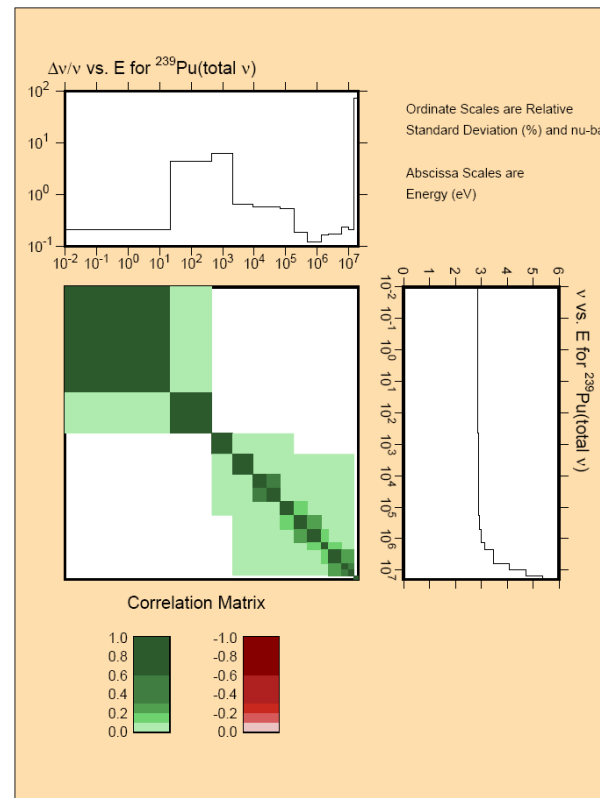
- For the latest updates: <http://t2.lanl.gov/codes/njoy99/>
 - **99.279 release expected by the end of November, 2008.**
- Current version is 99.259. New updates will include:
 - Continue to refine ERRORJ coding/merge based upon user feedback;
 - Add recognition of NAPS, NRO options for URR processing;
 - Add MF34 and MF35 plotting capability to COVR/PLOTR/VIEWR;
 - Change plot format to include multigroup cross section when $mt=mt1$;
 - Use log scale on abscissa when max/min data range exceeds 10;
 - Add warning message when the cross section standard deviation exceeds the fixed abscissa limits.
 - Miscellaneous changes based upon user feedback or ongoing inhouse development.
 - In particular, constructive interaction with ANL, BNL and Andre Trkov.

NJOY99 Status

NJOY99.259 result

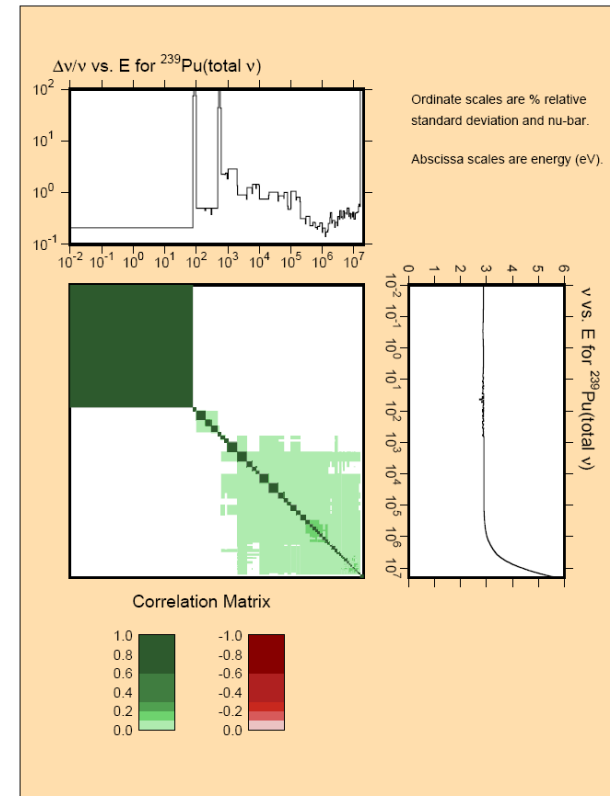


NJOY99.279 result

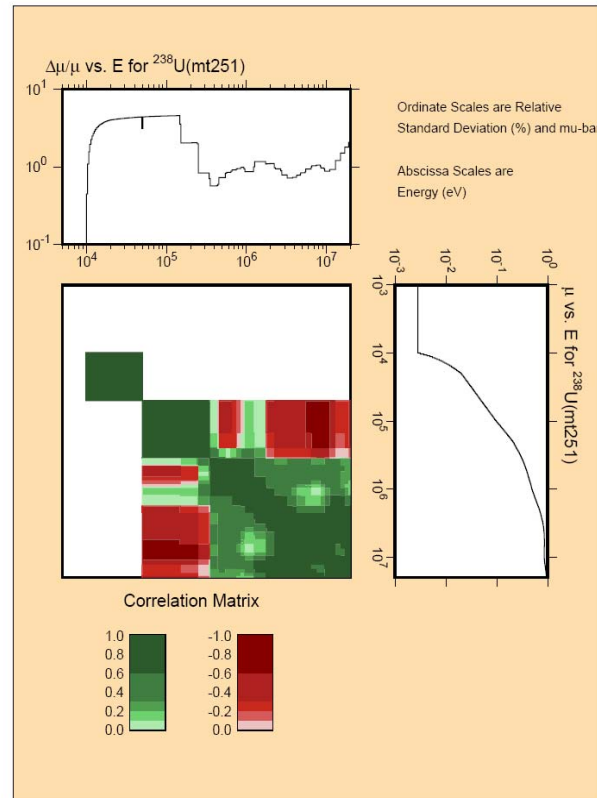


NJOY99 Status

- ERRORJ99.259 cannot process large number of multigroups.
 - Increased array limits and better memory management in 99.279 resolves this issue.
- A test job with many groups provides a “sanity” check of the underlying data in the file.
 - Example: ^{239}Pu (ENDF/A, 10/1 version).
 - Are the large spikes in prompt nu-bar uncertainty between 100 eV and 1 keV reasonable?

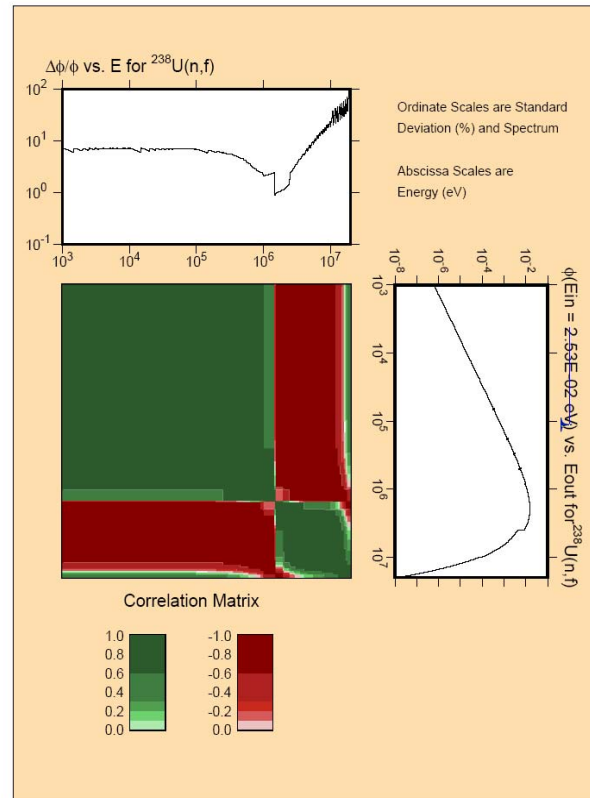


NJOY99 Status



- Sample ERORRJ/COVR/ PLOTR/VIEWR results for elastic scattering angular distribution, really μ -bar, uncertainty (MF34).
 - groupr job included 3 251 “ μ -bar” /.
 - groupr and errorj jobs used a detailed (618 group) energy structure.
- Input data source was JENDL-3.3 ^{238}U .

NJOY99 Status



- Sample ERRORJ/COVR/PLOTR/VIEWR results for prompt fission spectrum uncertainty (MF35).
 - group job included 5 18 “chi” /.
 - group and errorj jobs used a detailed (618 group) energy structure.
- Input data source was JENDL-3.3 ^{238}U .

NJOY2008 Status

- All NJOY99 coding now converted to Fortran 90/95.
- Historical test problems reproduce NJOY99 results.
- Debugging of LRF=7 cross section reconstruction and comparison of pendf files with ORNL and LLNL (e.g. new ^{19}F and ^{35}Cl evaluations) is ongoing.
 - Can also calculate Legendre moments on the file 3 energy mesh.
 - Potential mt assignment issue for charged particle channels.
 - mt103 versus mt600, mt601, ... for example.
- Internal paperwork that will allow release of the new code to RSICC has been initiated.
 - Expect release to RSICC by the end of 2008.

NJOY Training

- Successful half-day tutorials were presented at the 15th ICRS in April, 2008 and the ANS General Meeting in June, 2008.
- Training plans during FY2009:
 - Tentative plans for a half-day tutorial during the ANS General Meeting in Atlanta (June, 2009).
 - A topic for discussion during the JEFF/NJOY User's Group meeting later this month at NEA headquarters.