

National Coordination

- Organize and chair CSEWG Evaluation Committee meeting at BNL, Nov. 2003.
- Organize and chair Nuclear Reaction WG meeting at USNDP meeting in Nov. 2003.
- Help organize and help lead the CSEWG Homeland Security Task Force, and interact with LANL NA22 representative to provide feedback on user needs.
 - Homeland Security data needs were investigated.

International Coordination

- Complete the organization of the next int. nuclear data conf. (ND2004) to be held in Santa Fe, September 26-October 1, 2004.
 - 447 participants — US 203, JP 52, RU 34, FR 28, DE 25 ...
 - 4 key note, 78 Invited, 78 oral contributions, 326 posters
- 2 LANL members participated in NEA WPEC 2004 meeting in Aix-en-Provence.
 - led a small meeting of the WPEC Subgroup A on nuclear model codes.
 - A special meeting on covariances (Subgroup 20) was held during ND2004.
- One staff member gave a talk at the April 2004 IAEA Vienna meeting on spallation sources.
- Light element standards CRP, Th-U fuel cycle.
- Upgrades to NJOY were released to the international NJOY data processing community.
- Hosted key researchers from Geel, Erlangen, Caderache and Moldova.

Web Site Maintenance

- The latest LANL evaluations were made available via our WWW site:
<http://t16web.lanl.gov>
- The site has been important for the integral data testing community.
- Wilson and Moller's new delayed neutron data were also made available.
- Little WWW development work was done this year.

Nuclear Structure Data Measurement

- LANL/LANSCE maintains a program to measure nuclear decay information.
- More than 10 unobserved γ -ray transitions were identified for $^{191,193}\text{Ir}$. for previously
- Interaction with the evaluators for these nuclei continues.

ENDF Evaluations

- New improved evaluations for the Uranium isotopes (232, 233, 234, 235, 236, 238, 239, and 241), ^{239}Pu , ^{237}Np , ^{241}Am have been submitted for ENDF/B-VII.
- Preliminary ENDF LA150, not yet submitted to CSEWG.
- We have performed new GNASH analyses for photonuclear data on $^{240,242}\text{Pu}$ and ^{241}Am .
 - These results must be converted to complete ENDF evaluations
 - Our goal is to replace the Obninsk evaluations with LANL evaluations.
- Evaluation of the light elements standards was done.

Nuclear Reaction Standards

- IAEA CRP, improvement of light elements standards cross section, met at the Washington DC.
- LANL hosted another meeting in the spring.

Nuclear Model Development

- Calculation and interpretation γ -ray reactions for $^{171}\text{Tm}(n, \gamma)$
- Reactions producing unstable products and isomers in the $n + ^{89}\text{Y}, ^{193}\text{Ir}$.
- ^{89}Y work was given a Defense Program Award of Excellence (2004).
- Developed a new GNASH analysis for $^{28}\text{Si}(n, n')$, and compared with LANSCE data.
- ^{238}U prompt fission evaluation of FIGARO data. We have made progress on a new correlated neutron emission model for fission neutrons, using Monte Carlo methods.
- ^{237}Np fission chamber, from CEA to LANSCE
- $^{151}\text{Sm}, ^{237}\text{Np}$ neutron capture measured, $^{171}\text{Tm}, ^{147}\text{Pm}, ^{155}\text{Eu}$ samples prepared.

Nuclear Reaction Data Measurements

- Prompt γ -ray emission following interaction of fast neutrons with ^{99}Tc completed. Analysis in progress
- ^{130}Te and ^{100}Mo measured at LANSCE/GEANIE.
- Consulted with evaluators.

Evaluation of Data Needed for Astrophysics

- Completed $N - N$ analysis, and the evaluated hydrogen data were provided.
- The folded Yukawa macro-microscopic code including axial-asymmetry shape-degree of freedom was used to calculate and analyze barriers for nuclides important in “termination of r-process.”
- Calculated potential energy surfaces for the inner barrier region for more than 1500 nuclei in the region of $190 < A < 290$ were made.