

Status of Nuclear Science References Database

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BROOKHAVEN
NATIONAL LABORATORY

a passion for discovery



U.S. DEPARTMENT OF
ENERGY

Office of
Science

NSR General Information

- 100 years of research articles
- 200,964 experimental, theoretical and compilation works (October 12, 2010)
- 473 codens (journals)
- 86,620 authors
- 4,932 nuclides can be compared with ~4,700 nuclides that FRIB would produce
- 6,831 reactions
- 951 particles

NSR Contributors

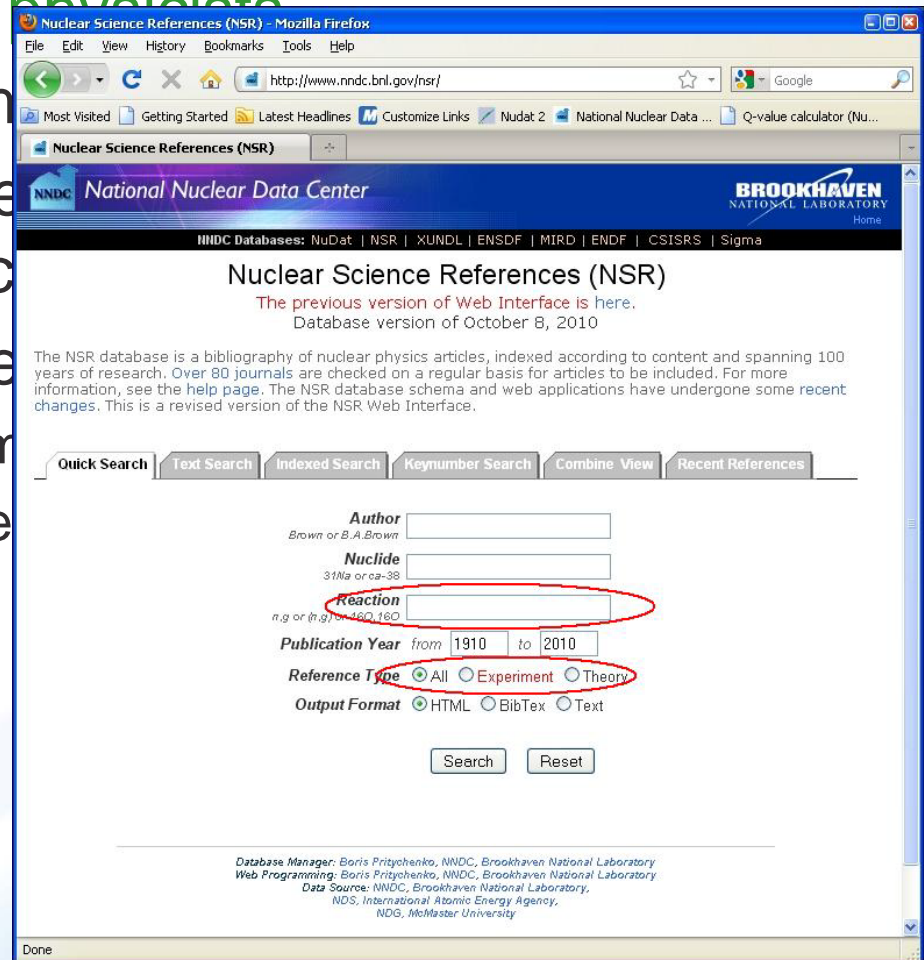
- **NSR Team:** B. Pritychenko, J. Totans, B. Singh, M. Kellett, E. Betak
- **NNDC:** Database Management
- **NNDC:** Customer Support Administration
- **McMaster:** PRC
- **IAEA:** Nucl. Phys. A, EPJ
- **Bratislava:** Proceedings, Lab. Reports
- **NNDC:** The rest of compilations

NSR Operation in FY 2010

- Total number of NSR entries in FY 2010 is 3,818 compare with 2,714 in FY 2009 (~41% growth)
- Total number of keyworded articles is 2,331
- Total number of NSR corrections (quality assurance) is 101
- Total number of NSR updates in FY 2010 is 66
- Total number of NSR entries as of 09/30/2010 is 200,786; **We have exceeded 200K!!!**
- Total number of NSR distributions to Vienna and Berkeley is 12
- Recent References: 4 (every 3 months)

NSR Web & Database Upgrades

- Make it more friendly for physicists
- FRIB request for experiment
- NSR is the only database search for charged-particle
- Make it easier to manage
 - nsr_qlog database, November
 - NSR entries, NSR logs we



NSR Web Statistics

- NSR statistics is very conservative
- Because of the Migration project, we do not have database logs for 8/1/2010-11/15/2010, only Apache Web server logs
- Combining both methods and using 10 month NSR database logs as a bias: 210,710 retrievals with 769 references per retrieval
- FY10/FY09: $210,710/208,196=1.012$
- Only non-zero retrievals were counted; Legitimate NSR title search for “Intruders” produces zero and excluded

Work with XSB, Inc.

- **Semantic Analysis of Nuclear Physics Publications and Automatic NSR Keyword Generation:**
 - Utility to convert PDF Files to text for Phys. Rev. C and Nucl. Phys. A – 09/10/10
 - Software to extract key information from text file – 11/20/10
 - Java program to compare results of the analysis engine with previous compilations – 12/15/10
 - Installation of the software on the NNDC server, provide documentation and training – 01/31/11

NSR for Nuclear Physics

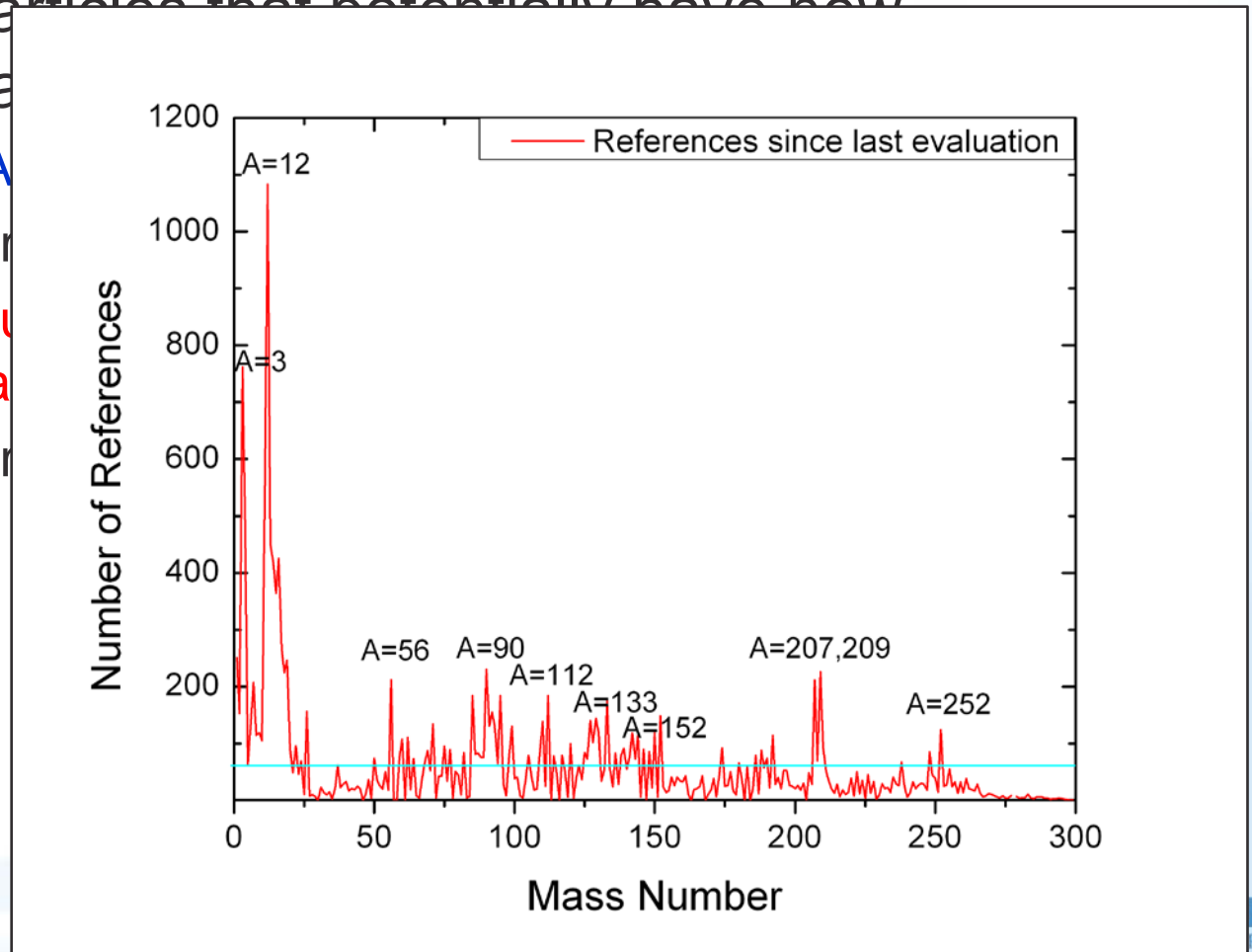
Last year I asked everyone to contribute (or inform me) on important nuclear physics papers that are missing in NSR:

- Chris Ouellet: **1957Bu66**, *Synthesis of the elements in stars*
- Boris Pritychenko: **1955We41**, *Westcott factors*
- Balraj Singh: *A.H.Becquerel, Sur les radiations émises par phosphorescence. Comptes Rendus 122, 420–421 (1896); Comptes Rendus 122, 501 (1896)*
- Integration with EXFOR, work in progress

NSR for ENSDF

- Number of articles that potentially have new experimental data

- Peaks at $A=3$
- Popular target
- Average number of references since last evaluation
- Plot was created



Conclusion & Outlook


- NSR is nicely recovering from the compilation problems of FY08-FY09
- In FY10 we reached the ~3,800 compilations level
- Backlog on Nucl. Phys. A/ EPJ will be fixed this year
- We substantially improved on conference proceedings compilations
- We work on bringing XXI century technologies to NSR compilation process
- We invite all interested parties to contribute to NSR

NSR Highlights

- 100 years of research, since 1910
- Total number of NSR articles published in FY 2010: 2,010 compare with 2,714 in FY 2009
- Total number of NSR articles published in FY 2010: 200,786; We have 200,786 articles published in FY 2010
- NSR was advertized in Physics Today, August 2010

web watch To suggest topics or sites for Web Watch, please visit <http://www.physicstoday.org/suggestwebwatch.html>.
Compiled and edited by Charles Day

<http://www.ostina.org/content/view/4914/1292>
Bridges is an online magazine published by the Office of Science and Technology at Austria's embassy in Washington, DC. Among the articles in the current issue is a report by OST staffer Caroline Adenberger on North Korea's first international university, Pyongyang University of Science and Technology.



<http://www.nndc.bnl.gov/>
The **National Nuclear Data Center** at Brookhaven National Laboratory provides a clearinghouse for collision cross sections, half-lives, and other nuclear data. The center also maintains a searchable database of papers drawn from 80 journals.

<http://www.cancer.gov/cancertopics/factsheet/Therapy/radiation>
Radiation therapy can be as scary to some people as the cancer it's intended to treat. The National Cancer Institute has put together a guide, **Radiation Therapy for Cancer: Questions and Answers**, which explains the various kinds of radiation therapy and how they work.

www.physicstoday.org August 2010 Physics Today 29