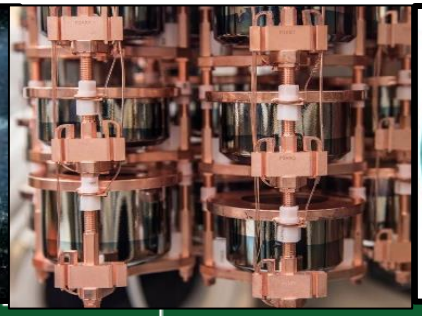
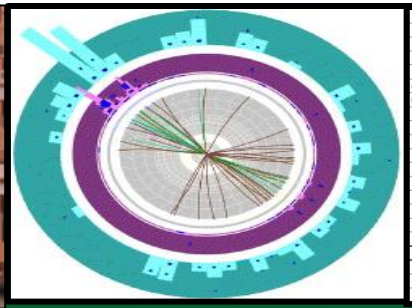
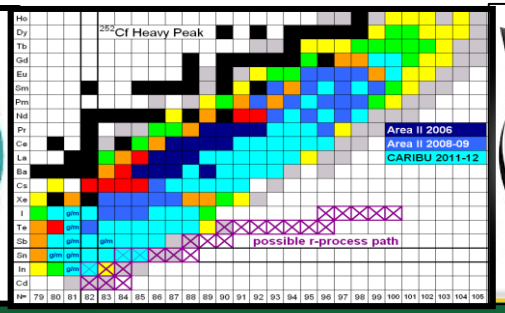
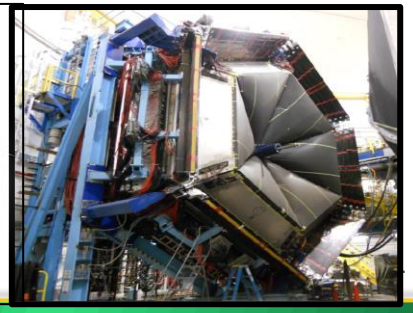
Charge to NSAC to Develop a Strategic Plan to Guide Federal Investment in Nuclear Data

NSAC Meeting

April 27, 2022

Dr. Timothy J. Hallman
Associate Director of the Office of Science
for Nuclear Physics

U.S. Department of Energy and the National Science Foundation

April 13, 2022

Professor Gail Dodge
Chair, DOE/NSF Nuclear Science Advisory Committee
College of Sciences
Old Dominion University
4600 Elkhorn Avenue
Norfolk, Virginia 23529

Dear Professor Dodge:

This letter is to request that the Nuclear Science Advisory Committee (NSAC) establish an NSAC Sub-Committee to assess challenges, opportunities, and priorities for effective stewardship of nuclear data.

"Nuclear data" is data derived from observed properties of nuclei, their decays and decay products, and the interactions of both nuclei and their decay products with other nuclei, subatomic particles or in bulk matter. Data from theoretical models created for comparison with experimental nuclear data may also be considered for inclusion under this definition.

Increasingly, access to accurate, reliable nuclear data plays an essential role in the success of Federal missions such as non-proliferation, nuclear forensics, homeland security, national defense, space exploration, clean energy generation, and scientific research. Data access is also key to innovative commercial developments such as new medicines, automated industrial controls, energy exploration, energy security, nuclear reactor design, and isotope production. The mission of the United States Nuclear Data Program (USNDP) managed by the Department of Energy (DOE) Office of Science Nuclear Physics (NP) program is to provide current, accurate, authoritative data for workers in pure and applied areas of nuclear science and engineering. This is accomplished primarily through the compilation, evaluation, dissemination, and archiving of extensive nuclear datasets. USNDP also addresses gaps in nuclear data, through targeted experimental studies and the use of theoretical models. A keystone of USNDP stewardship of nuclear data is the activity of the National Nuclear Data Center (NNDC) hosted at Brookhaven National Laboratory.

NSAC is requested to develop a strategic plan with prioritized recommendations to guide federal investment in the U.S. Nuclear Data Program (USNDP). This will consist of two separate steps and corresponding reports that will serve as a basis to inform the strategic plan:

1) Assess USNDP Status, which would include the following actions:
    a. Assess and document recent achievements in nuclear data and their impact.
    b. Survey current and future federal and non-federal needs for reliable, accurate, secure, accessible nuclear data.
    c. Assess the role, competitiveness, and importance of the USNDP in an international context.
2) Based on the USNDP Status Report above, provide recommendations for maintaining effective stewardship of nuclear data, which includes the following actions:
    a. Identify challenges for nuclear data stewardship in the future, including identifying and prioritizing the most compelling opportunities to enhance and advance NP stewardship of nuclear data and the impact if those opportunities can be realized.
    b. Describe possible ways the Nuclear Data (ND) community can work to train and retain a diverse, equitable, and inclusive workforce capable of sustaining the U.S. ND enterprise.
    c. Identify access needs for facilities and instrumentation, crosscutting opportunities with other federal programs, and potentially mutually beneficial interactions with other domestic and international stakeholders.

We request that you submit an interim report on the outcome of the first step (USNDP Status Report) by September 15, 2022, with the second and final report submitted by January 30, 2023. We appreciate NSAC's willingness to take on this important task and look forward to receiving its report.

Sincerely,

JOHN BINKLEY

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J. Stephen Binkley
Acting Director
Office of Science
U.S. Department of Energy

SEAN L JONES

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Sean Jones
Assistant Director
Directorate for Mathematical and Physical Sciences
National Science Foundation