



U.S. DEPARTMENT OF
ENERGY

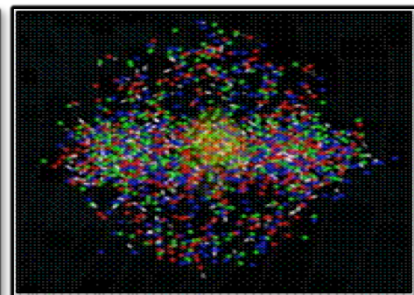
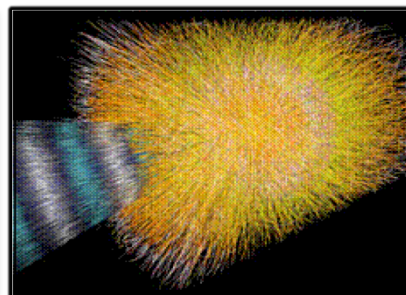
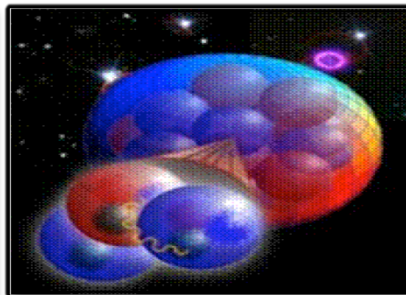
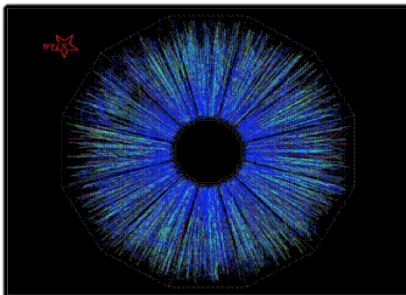
Office of
Science

A Few More Comments from DOE-NP

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Was the meeting a success?

Recall one recommendation of the July 2014 USNDP Review:
Develop mechanisms to assess community data needs.

That recommendation has now been satisfied. **Yes.** Success!

More serious observations...

This is a big problem. (UotY) Where would one (DOE-NP) start?

We *occasionally* heard in this meeting that the nuclear data is in good shape. More often we heard that it is incomplete, different databases give very different predictions, and the predictions often work only because they have been tuned to give a desired result in the most well studied regimes. This introduces ...



“compensating errors.”

We don’t even know what we thought we did.

This must be unsettling for many applications, especially for (e.g.) criticality studies. To me this alone could justify an ND expt program. The Canadian reactor story sounds very quotable. (My concern: Is it DOE- NP or NE?) Anyway, we likely agree that

“Continuous nuclear data research is mandatory.” - S. Qaim

One quick request in passing: Feedback! If you find an error (or suspect one) in a USNDP database, please contact USNDP with this information. There were examples cited of likely errors, e.g. phantom levels, that should certainly be reported to the program.³



Where would NP start with ND expt? We have already started.

ND trial expt 1: The original July 2014 “specific” ND expt **recommendation** was to “*Pursue a potential collaboration between the USNDP and BLIP [...]*” (and other NP isotope facilities) This collab w/ BLIP has started, and already appears to be a success, both in terms of isotope prod. cross sections, and in the use of BLIP to make contributions to traditional nuclear data (ENSDF). The new DOE funding reqd. for this ND expt has to date been very modest.

ND trial expt 2: MTAS beta strength measurements for reactor $\bar{\nu}_s$; this has shown how ND expt may address fundamental topics like the $\bar{\nu}$ anomaly, which may have ND issues, using existing facilities and modest resources. Analysis in progress. Continue?

Future prospects for DOE-NP ND expts? (What happens next?) ⁴



If DOE-NP funding is available, an FOA will be prepared and posted. Prospects for partnering with other DOE offices will be explored. Provided that this program is initiated, applicants will certainly be encouraged to leverage funding.

The White Paper from this meeting would be used as input in preparing this FOA. Please contribute a summary of your needs to this document, so your topics can be considered for this FOA.

Pre-FOA, if you know of a potential high-priority, high-profile, concise ND expt measurement with modest funding requirements (e.g. beam time), please advise. Some modest resources may be available to explore targets of opportunity, and this may help make the case within NP for a longer-term program.



Finally ...

Thanks to everyone for attending and discussing / presenting your applications, your experimental programs, and your nuclear data needs! Hopefully the meeting was or will be of value to you. You too will get a copy of the White Paper, for future reference.

We should also acknowledge Lee Bernstein and associates for their excellent work on this meeting, and LBNL for acting as our hosts.