Bibliographic & documentation issues

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BROOKHAVEN NATIONAL LABORATORY

a passion for discovery

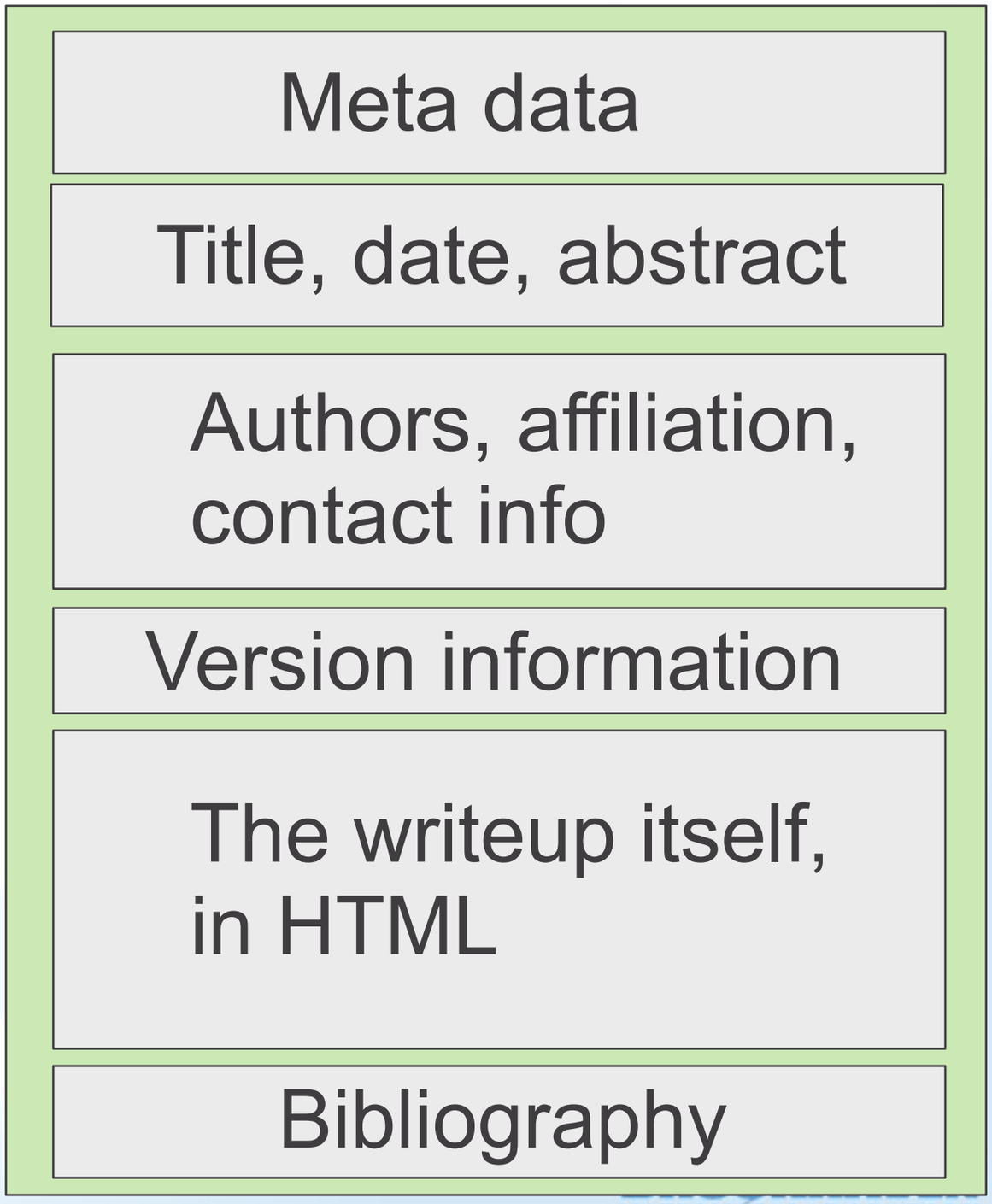
U.S. DEPARTMENT OF ENERGY | Office of Science

Goal

Require evaluators and data processors to provide detailed information needed to reproduce and extend their data. Information includes a bibliography, links to EXFOR data used, a description of codes and input parameters, and comments.

Tasks

- **Develop low-level data structures**
  - <reference> for bibliographies; shared format with NSR, EXFOR
  - <metadata> for arbitrary tags (helps search engines)
  - <doi>...
- **High-level documentation format**
  - ☑ See cartoon at right
  - Policy for external content (figs, etc.)
  - EXFOR data adjustments, normalizations, corrections...
  - Review of NSR, EXFOR, LaTeX to make sure all bases covered
- **A table of contents...**



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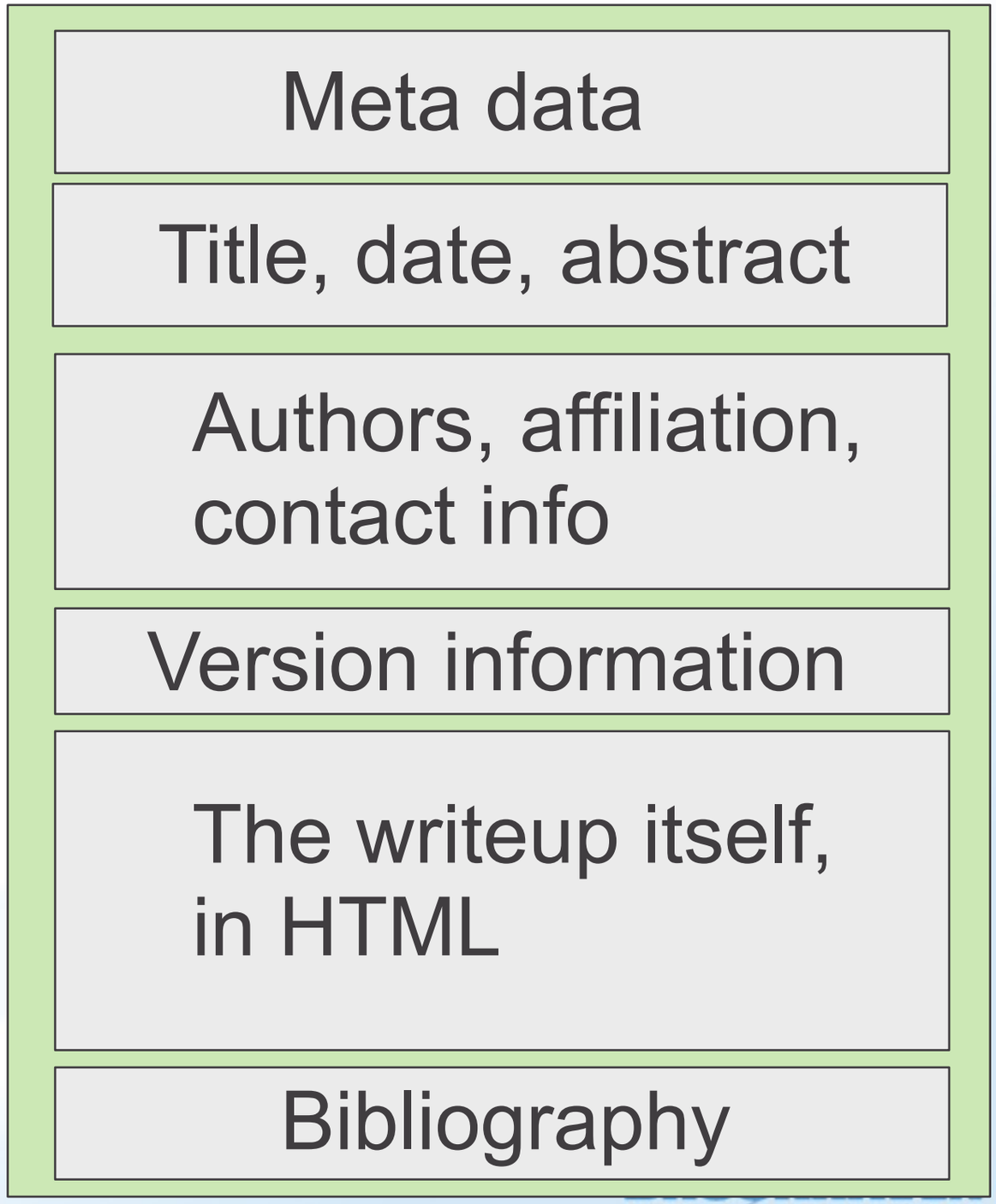
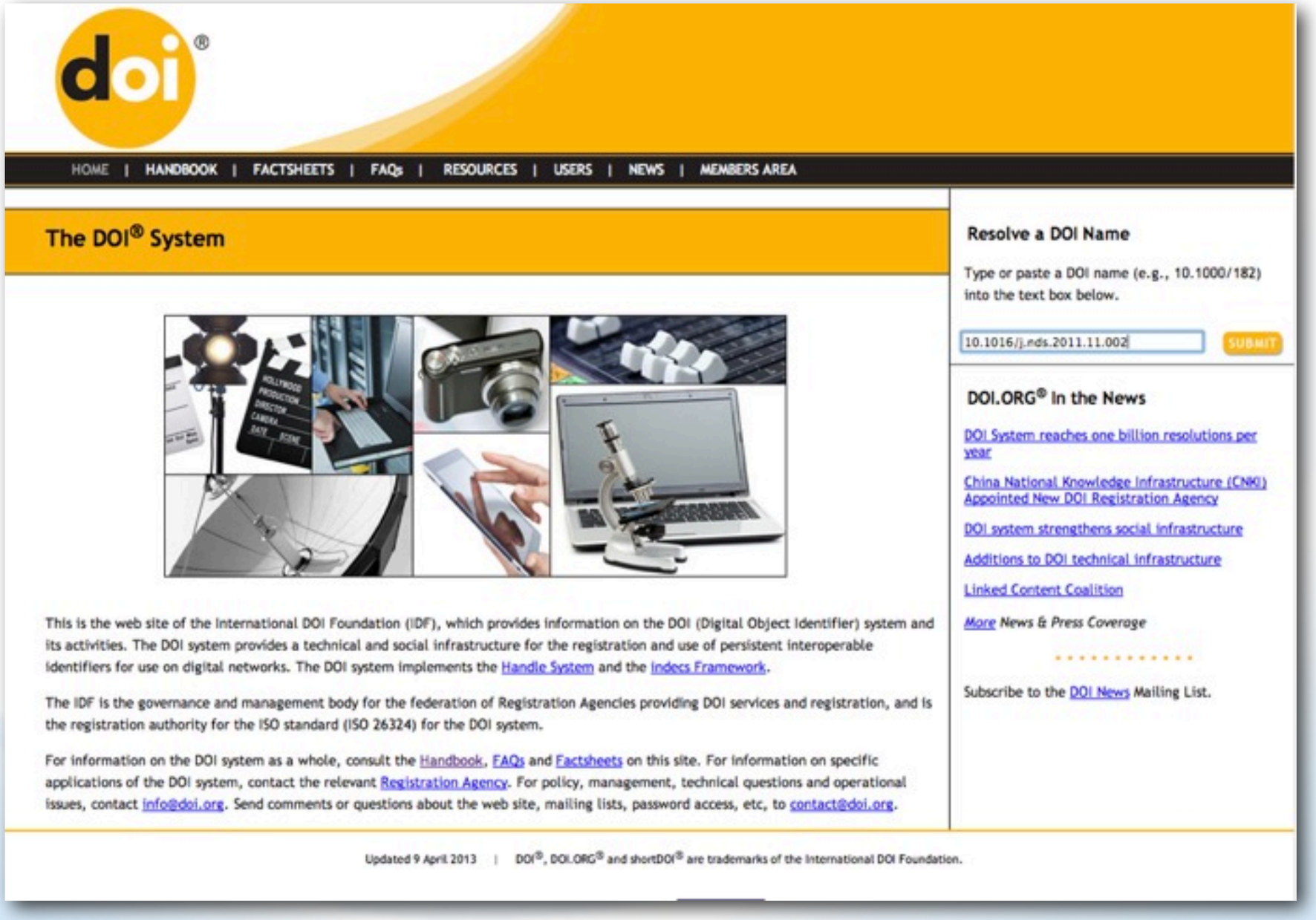
We need to talk about these



DOI's are unique id's on a publication/dataset; doi.org resolves them to URLs



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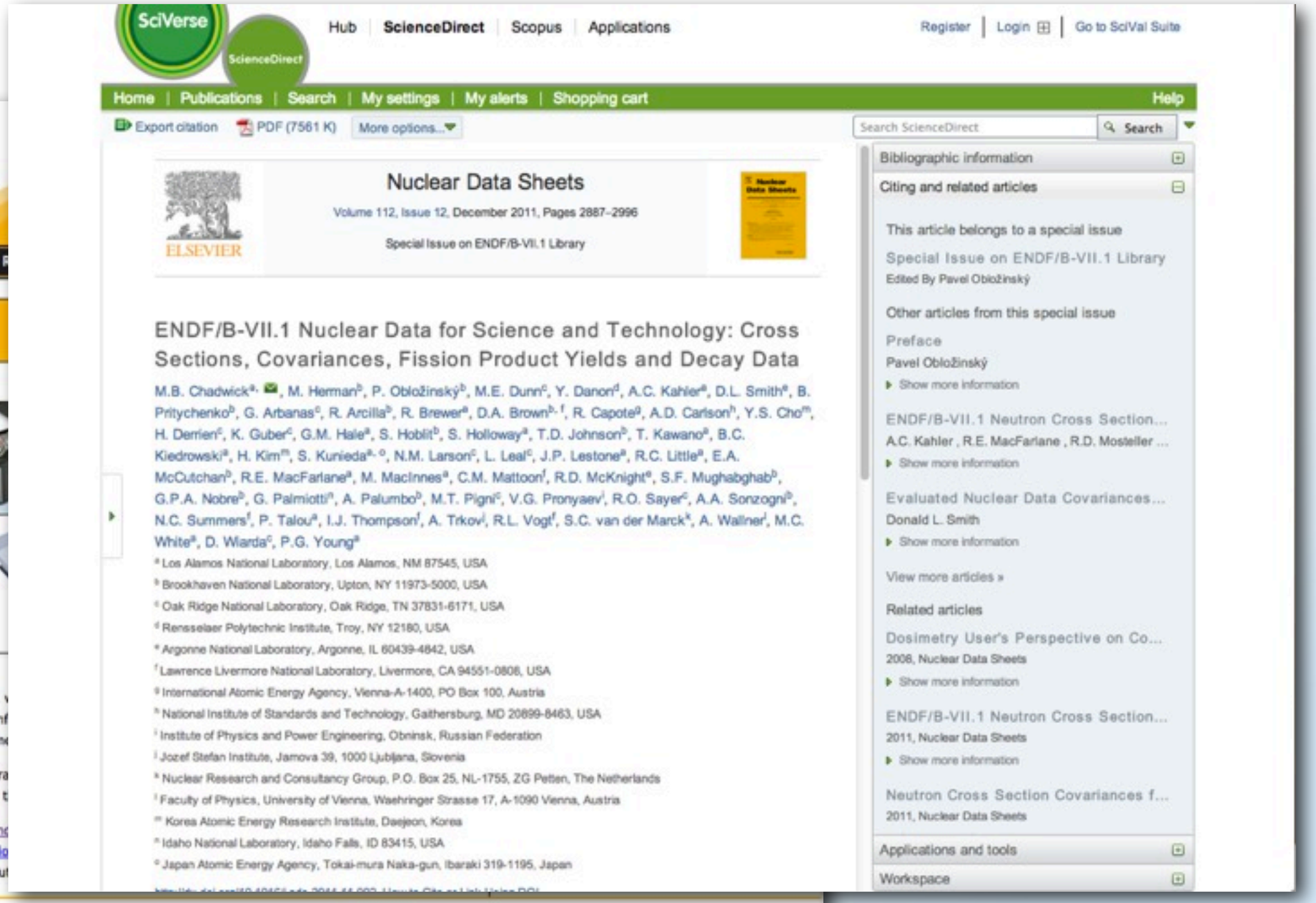
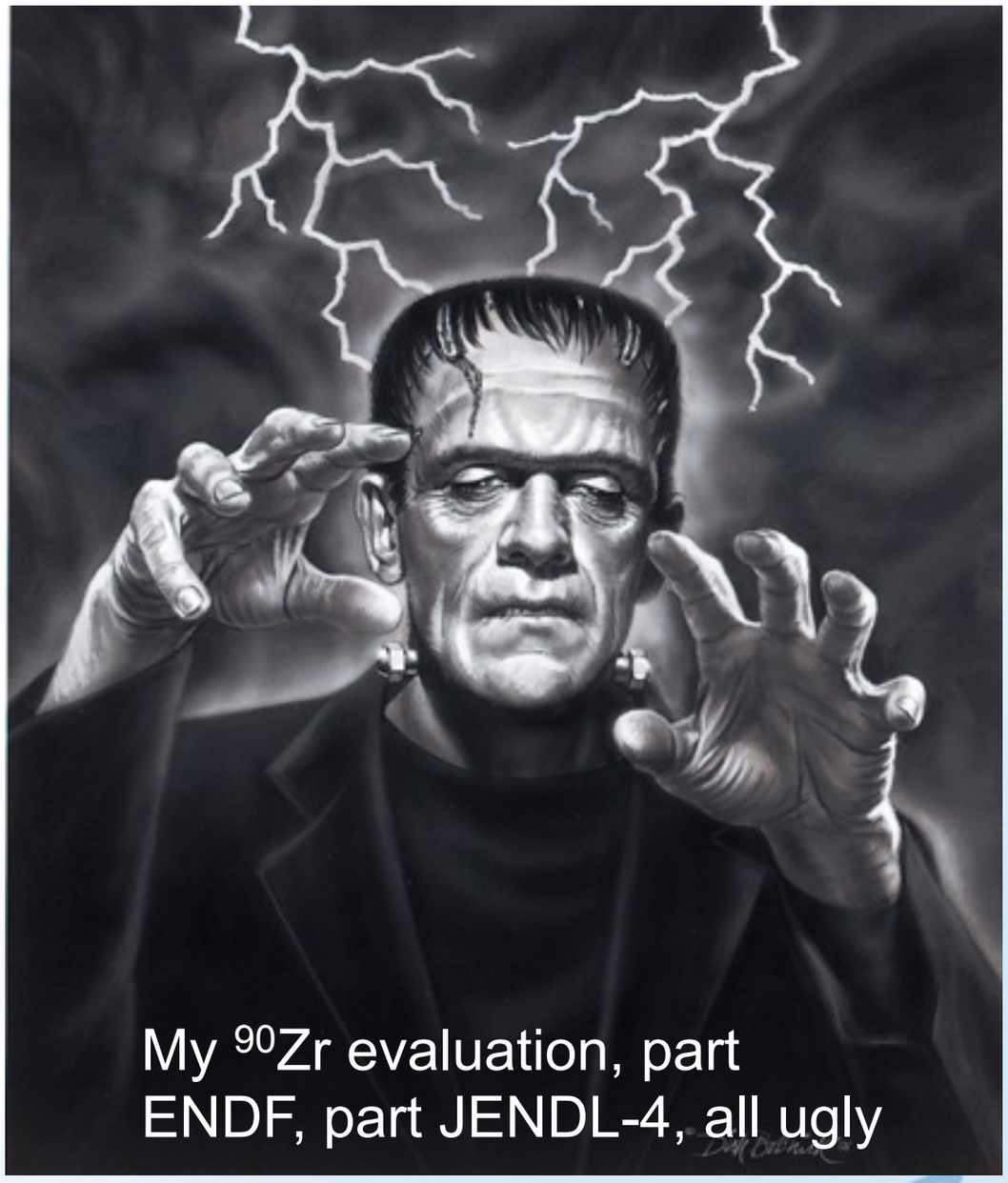


osti.gov and datacite.org want DOI's on all nuclear data in US; likely by end of FY14

- **Digital Object Identifiers (DOI's) are unique id's on a publication/dataset**
  - NNDC will generate them for NNDC-generated data
  - If CSEWG & USNDP OK, we will assign DOI's for all US nuclear databases
  - We decide on URL scheme
  - We provide a permanent URL to a dataset, datacite.org maintains the DOI->URL redirect
  - We promise to maintain URL's forever (or provide tombstone)
- **This is a very good thing**
  - Gives proper credit to evaluators
  - Generates citations (always good for performance appraisals)

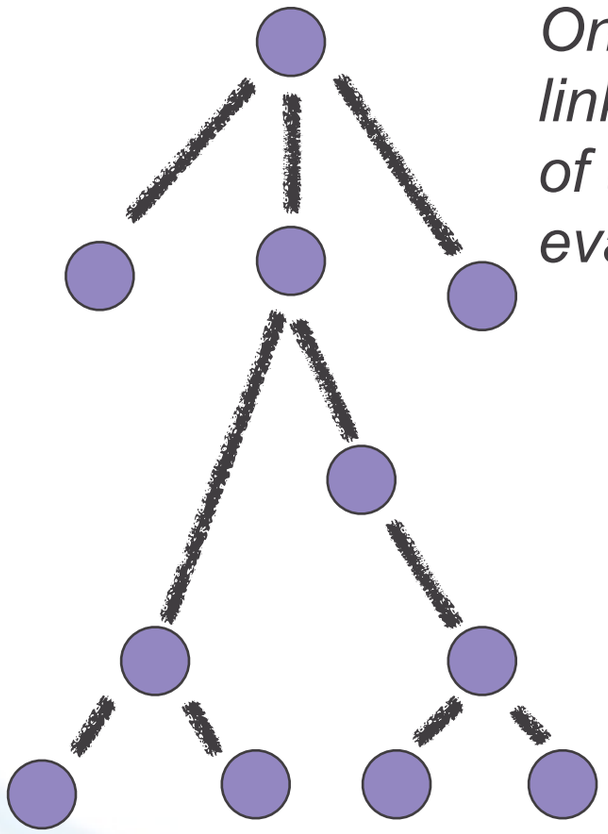
osti.gov and datacite.org want DOI's on all nuclear data in US; likely by end of FY14

- **ENDF borrows from other libraries**
  We'd like to be able to give proper credit; e.g a JAEA DOI for a JENDL-4.0 derived evaluation rather than an NNDC DOI
- **What about partial evaluations?**
  Fine grained DOI's (i.e. on evaluation parts) allow us to make Frankenevaluations with proper attribution.
- **For new format**
  - Clear hierarchy means deep URL's
  - **New requirement:** DOI for each URL as needed for proper attribution (see cartoon on next page)



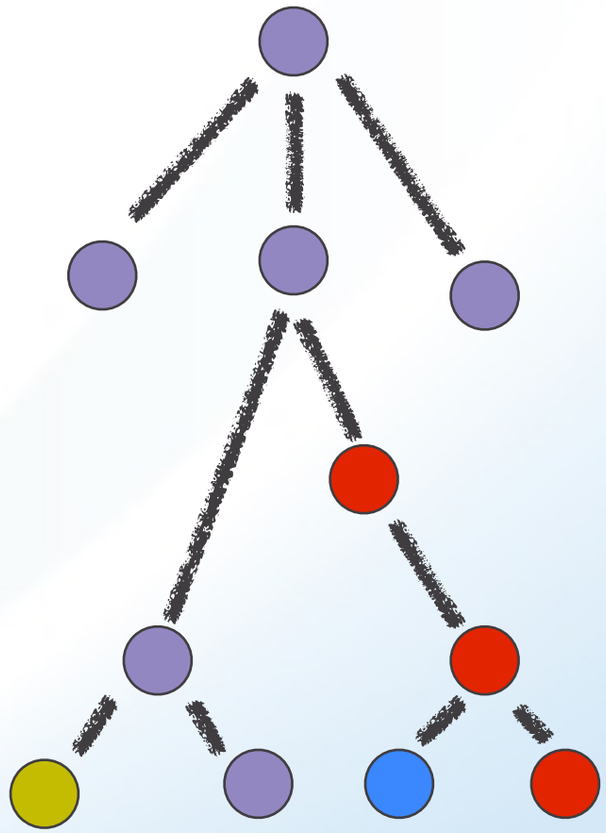
A proposal:
DOI references in GND

Monolithic evaluation; one DOI only



One DOI, linked to URL of top node of evaluation

Frankenevaluation (built from other evaluations); DOI's for each unique contribution, linked to URL of contribution



Four DOIs, each linked to URL of top node of individual contribution

A proposal:
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Frankenevaluation
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Table of contents at top of evaluation to provide URL's to distinct contributions.

Each contribution gets only one documentation section.

The DOI people will assign DOI to each distinct contribution.

Four DOIs, each linked to URL of top node of individual contribution

How do we reference EXFOR data?

- **The publications have DOI's. Do the EXFOR entries themselves?** The data in EXFOR doesn't always exactly correspond to what is published.
- **Often we have to adjust the EXFOR data. Can these be machine made readable?**
  - IAEA web widget can make covariances, how to reference those?
  - How to store these covariances?
  - How to store data renormalizations?
  - Detector response functions? What if we disagree with what is published?

Resources needed

- Volunteer to develop low level data structures
- Volunteer to develop high level hierarchy
- Volunteer to develop policy for external content (figs, pdfs, etc)
- An evaluation doc. editor webapp would be handy, esp. if linked with NSR, EXFOR
- Each institution must get DOI people for data produced at that institution