

Bibliographic & documentation issues

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BROOKHAVEN
NATIONAL LABORATORY

a passion for discovery



U.S. DEPARTMENT OF
ENERGY

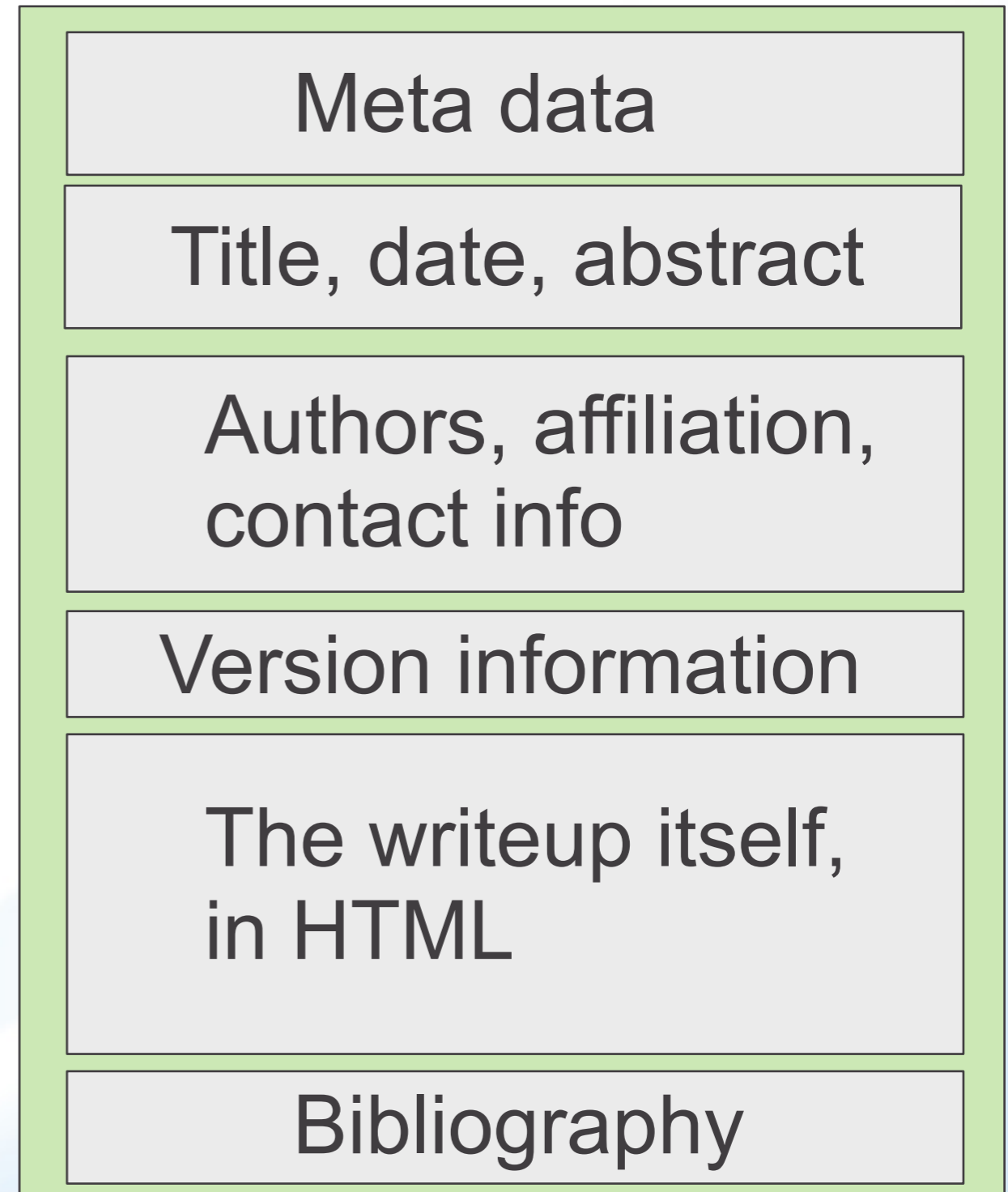
Office of
Science

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

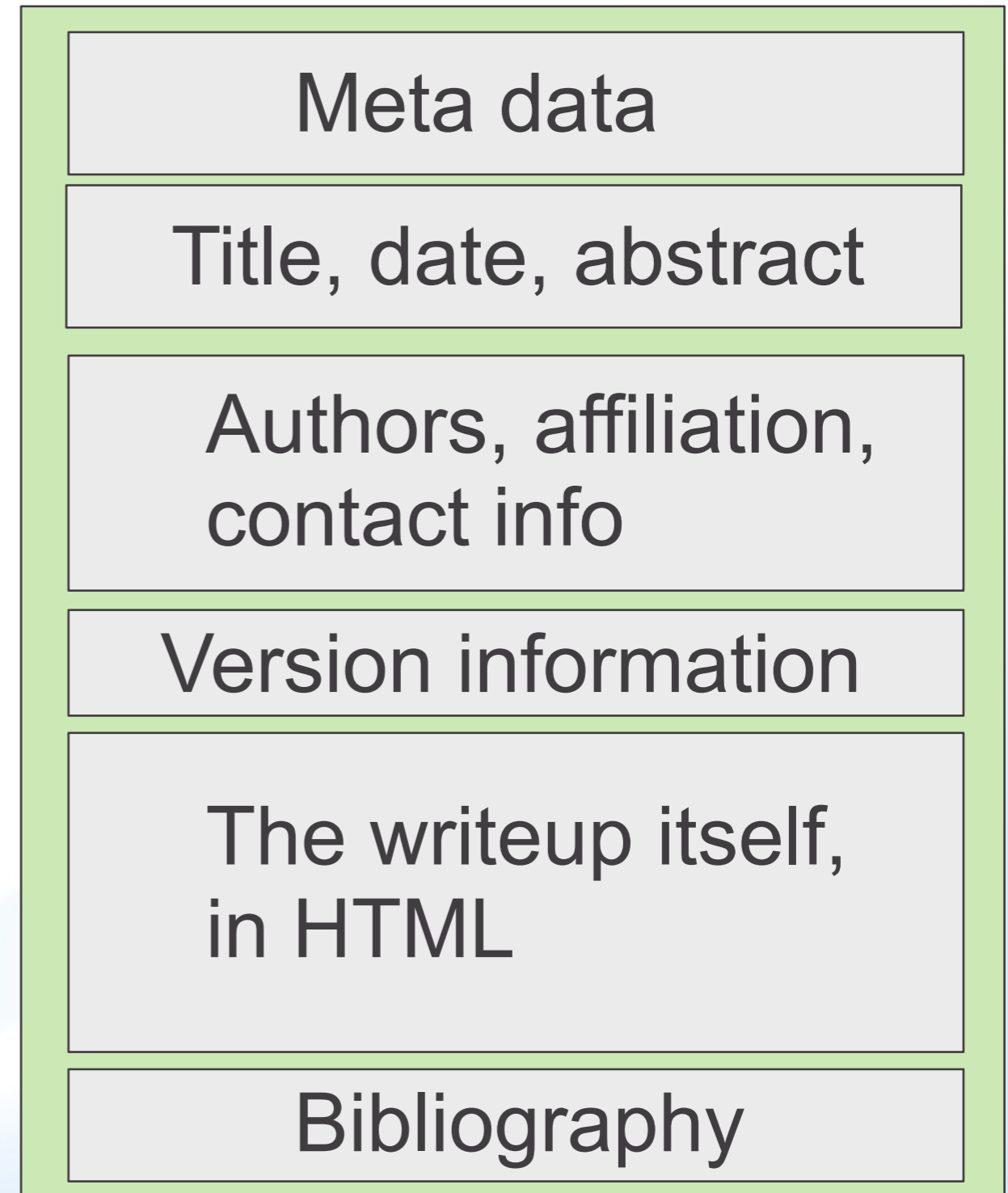
- Develop low-level data structures**
 - <reference> for bibliographies; shared format with NSR, EXFOR
 - <metadata> for arbitrary tags (helps search engines)
 - <doi>...
- High-level documentation format**
 - See cartoon at right
 - Policy for external content (figs, etc.)
 - EXFOR data adjustments,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



Tasks

We need to talk about these

- Develop low-level data structures**
 - <reference> for bibliographies; shared format with NSR, EXFOR
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- A table of contents...**



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



The screenshot shows the homepage of doi.org. At the top left is the 'doi' logo. Below it is a navigation bar with links: HOME | HANDBOOK | FACTSHEETS | FAQs | RESOURCES | USERS | NEWS | MEMBERS AREA. The main content area is divided into two columns. The left column is titled 'The DOI® System' and features a collage of images representing various digital and scientific fields: a film set with a clapperboard, a camera, a laptop, a microscope, a satellite dish, and a hand holding a tablet. Below the images is a paragraph of text describing the International DOI Foundation (IDF) and its role in providing technical and social infrastructure for the DOI system. The right column is titled 'Resolve a DOI Name' and contains a text input field with the value '10.1016/j.jnds.2011.11.002' and a 'SUBMIT' button. Below this is a section titled 'DOI.ORG® In the News' with several blue hyperlinks to news articles. At the bottom of the page, there is a footer with the text: 'Updated 9 April 2013 | DOI®, DOI.ORG® and shortDOI® are trademarks of the International DOI Foundation.'

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



HOME | HANDBOOK | FACTSHEETS | FAQs

The DOI[®] System

This is the web site of the International DOI Foundation (IDF), and its activities. The DOI system provides a technical and social infrastructure of identifiers for use on digital networks. The DOI system implements the International DOI System (IDS) for the registration and resolution of digital objects.

The IDF is the governance and management body for the federal registration authority for the ISO standard (ISO 26324) for the registration and resolution of digital objects.

For information on the DOI system as a whole, consult the [Home](#) page. For information on the applications of the DOI system, contact the relevant [Registration](#) issues, contact info@doi.org. Send comments or questions about the DOI system to info@doi.org.

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Nuclear Data Sheets

Volume 112, Issue 12, December 2011, Pages 2887–2996

Special Issue on ENDF/B-VII.1 Library

ENDF/B-VII.1 Nuclear Data for Science and Technology: Cross Sections, Covariances, Fission Product Yields and Decay Data

M.B. Chadwick^a, M. Herman^b, P. Obložinský^b, M.E. Dunn^c, Y. Danon^d, A.C. Kahler^e, D.L. Smith^f, B. Pritychenko^g, G. Arbanas^h, R. Arcillaⁱ, R. Brewer^j, D.A. Brown^k, R. Capote^l, A.D. Carlson^m, Y.S. Choⁿ, H. Derrien^o, K. Guber^p, G.M. Hale^q, S. Hoblit^r, S. Holloway^s, T.D. Johnson^t, T. Kawano^u, B.C. Kiedrowski^v, H. Kim^w, S. Kurihara^x, N.M. Larson^y, L. Leal^z, J.P. Lestone^{aa}, R.C. Little^{ab}, E.A. McCutchan^{ac}, R.E. MacFarlane^{ad}, M. MacInnes^{ae}, C.M. Mattoon^{af}, R.D. McKnight^{ag}, S.F. Mughabghab^{ah}, G.P.A. Nobre^{ai}, G. Palmiotti^{aj}, A. Palumbo^{ak}, M.T. Pigni^{al}, V.G. Proryaev^{am}, R.O. Sayer^{an}, A.A. Sonzogni^{ao}, N.C. Summers^{ap}, P. Talou^{aq}, I.J. Thompson^{ar}, A. Trkov^{as}, R.L. Vogt^{at}, S.C. van der Marck^{au}, A. Wallner^{av}, M.C. White^{aw}, D. Warda^{ax}, P.G. Young^{ay}

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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)

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- **ENDF borrows from other libraries**

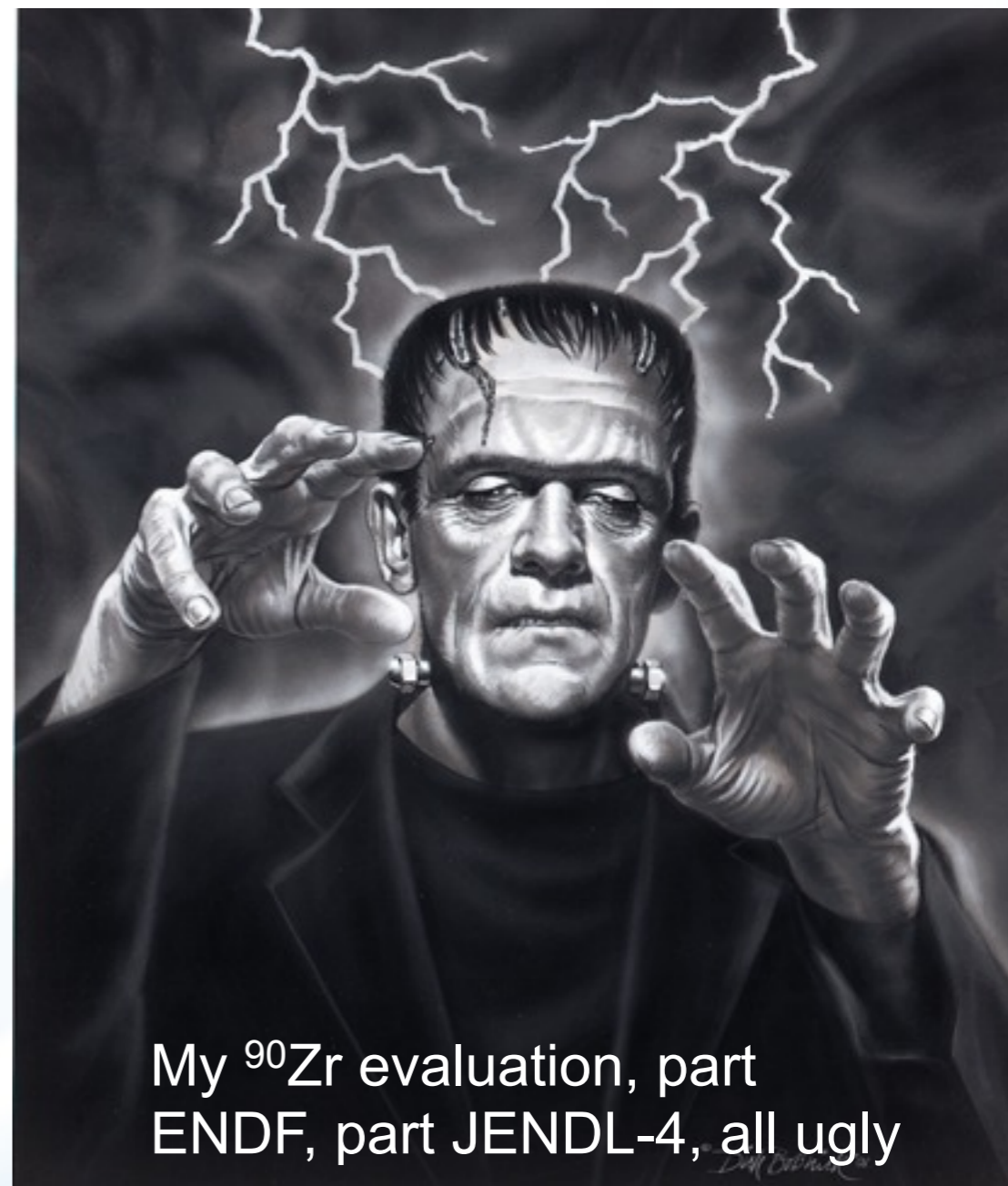
We'd like to be able to give proper credit; e.g a JAEA DOI for a JENDL-4.0 derived evaluation rather than an NNDC DOI

- **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)

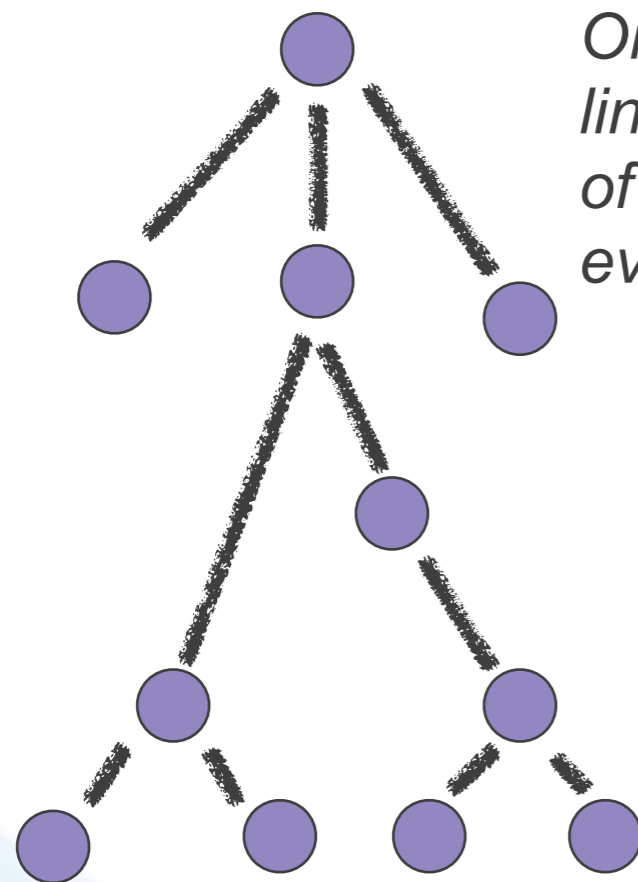


My ⁹⁰Zr evaluation, part ENDF, part JENDL-4, all ugly

A proposal: DOI references in GND

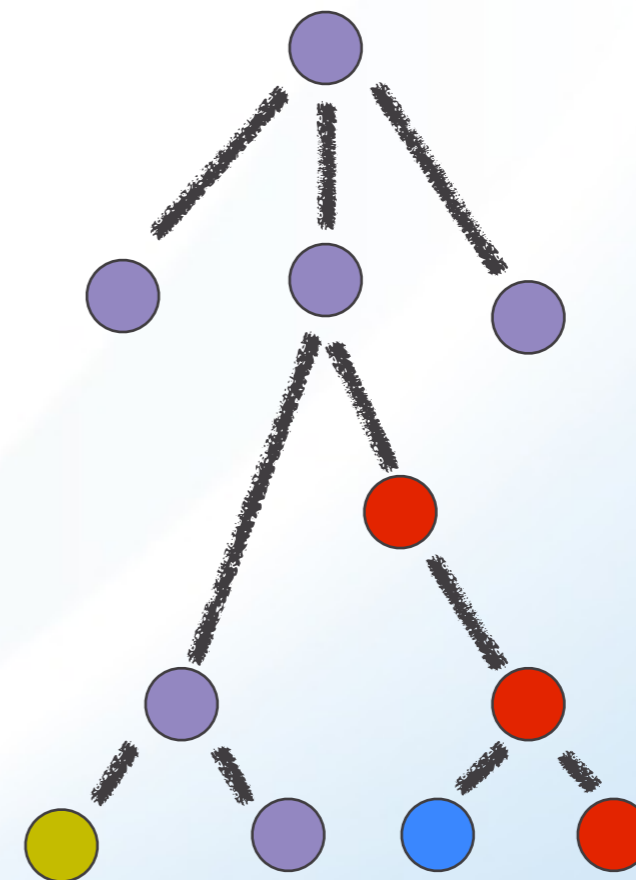


Monolithic evaluation; one DOI only



*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 DOI's,
each linked to
URL of top
node of
individual
contribution*

A proposal: DOI references in GND



**Monolithic evaluation;
one DOI only**

**Frankenevaluation
(built from other evaluations);**

**one contribution,
one DOI**

**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**