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SG-49 WEBEX MEETING, 13/5/2020:
**REPRODUCIBILITY IN NUCLEAR DATA
EVALUATION**

GOALS OF THE SUBGROUP

- ▶ Electronic documentation of the evaluation to allow for exact reproduction of an evaluation with minimal effort
 - ▶ improve existing evaluation in view of new experiments and/or model improvements
 - ▶ prepare ground for eventual consistent-adjustment of the library

Part of a more global vision including traceability, reproducibility, automation, integration, and modernization.

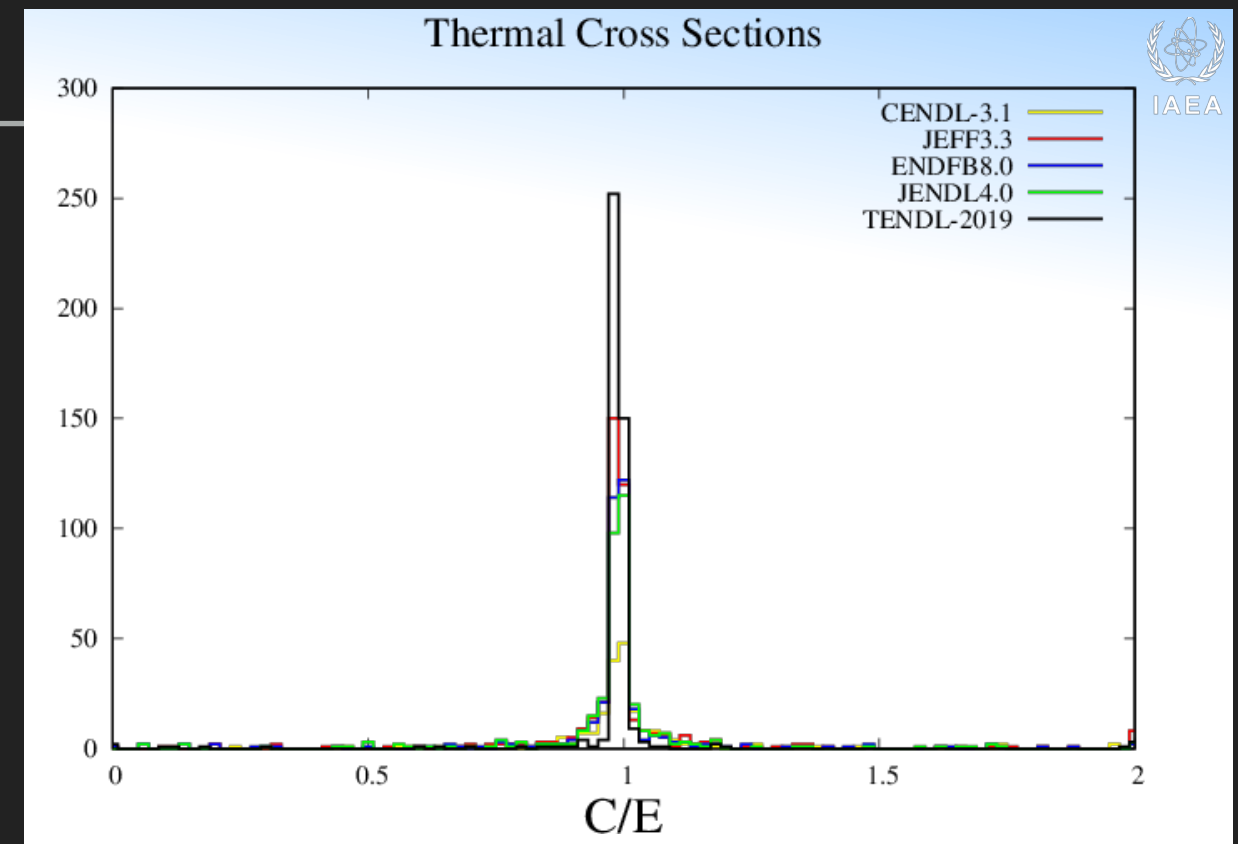
DELIVERABLES

- ▶ Design GitLab repository storing everything needed to reproduce evaluation
 - ▶ Resonance parameters
 - ▶ Experimental data used in the evaluation
 - ▶ Code (exact version) along with all necessary inputs
 - ▶ Script producing evaluation (including manual changes)

GREAT BUTTON

PRESENTATIONS

- ▶ Rochman - Introduction, goals reminder, lessons learned from the previous meeting
- ▶ Koning - Status of T6 and related software
- ▶ Herman/Fleming - Prototype of a ^{58}Fe EMPIRE evaluation
- ▶ Michel-Sendis/Foligno - NDS V&V Overview of GitLab project - Phase I
- ▶ Schnabel - A computational EXFOR database in JSON: Migration from MongoDB to CouchDB



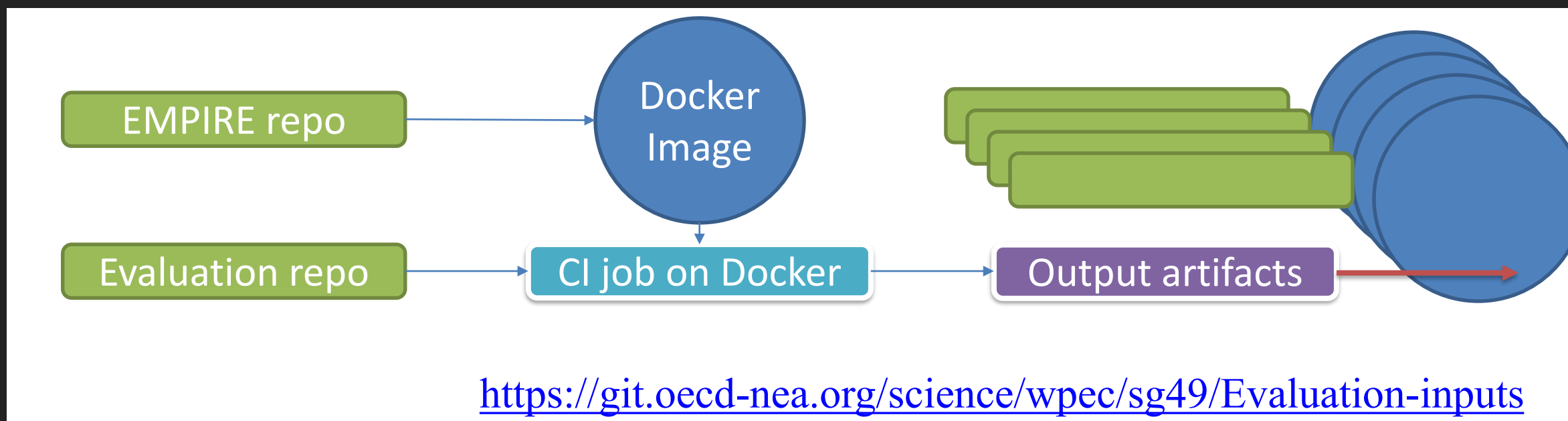
OVERALL IMPRESSIONS – DECISIVE PUSH FOR MODERNIZATION

- ▶ Extensive use of GitLab for versioning
- ▶ Use of Docker containers
- ▶ CI/CD - Continuous Integration & Deployment for automation and shortening feedback times
- ▶ Improving accessibility to data ENDF and EXFOR
- ▶ Document-oriented databases (EXFOR)
- ▶ Modern communication tools (YAML, JSON?)
- ▶ Machine Learning



WHERE WE ARE?

- ▶ EMPIRE installed in GitLab including CI
- ▶ Docker container runs EMPIRE
- ▶ Simple case of [Fe58](#) evaluation stored in GitLab
- ▶ First template of README.md file with description of the Fe58 evaluation proposed



WHERE DO WE GO?

- ▶ More codes (TALYS, CoH, FUDGE, DICE,...)
- ▶ Separate common parts out from the codes (RIPL, PREPRO,...)
- ▶ More complicated cases (with scripted 'manual' interventions)
- ▶ Develop README.md template and GitLab directory structure for storing inputs
- ▶ Involve Resonance Region community

More tele-conference meetings targeting specific issues