

Large Research Infrastructure

LRI data lifecycle, F.A.I.R.T.

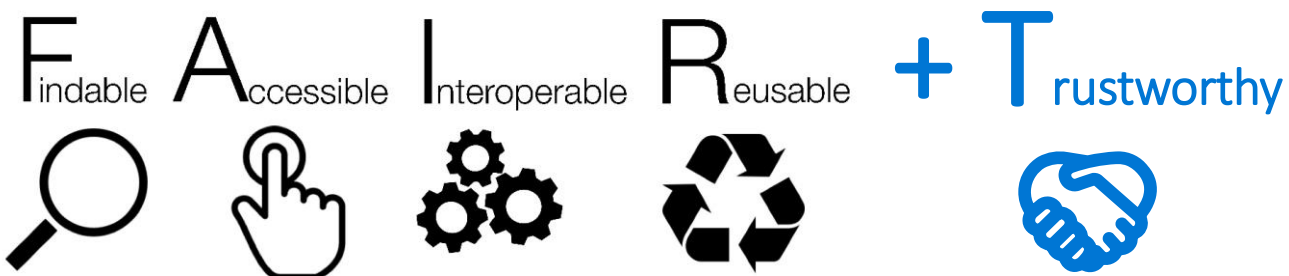
Petr Čermák, MGML

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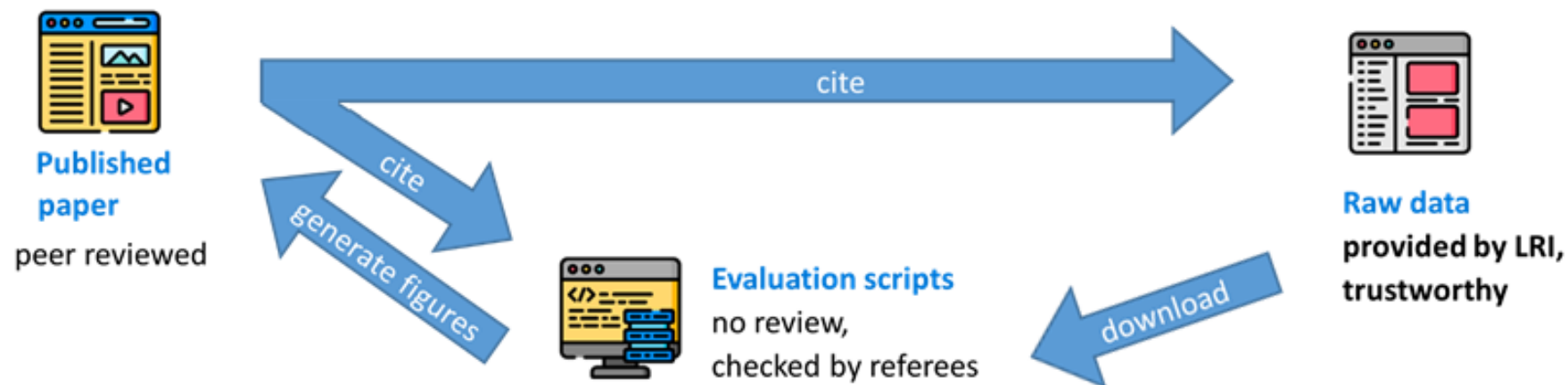
Plán

- Teorie
- Praxe

<https://mgml.eu/about/data-policy>



- Naměřená data jsou zveřejněna v originální podobě
- Zdrojová data nelze měnit → control checksum
- Celý proces je plně automatický



Naše implementace práce s daty



Proposal přijatý k měření,
→ vygenerováno DOI.



Měření / sběr dat

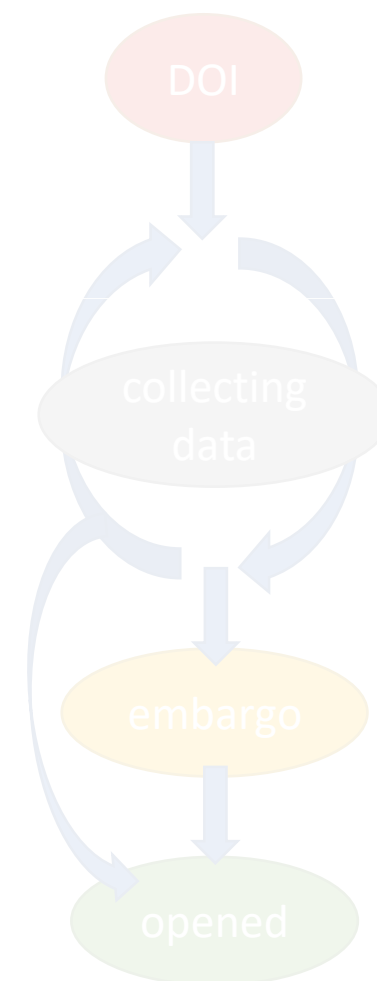
- Dokončení experimentu,
→ data jsou převedena na servery infrastruktury a zpřístupněna členům týmu.
- PI se může rozhodnout **kdy se data zveřejní.**



Proposal je dokončen → embargo period



5 let pod dokončení **jsou veškerá naměřená data automaticky zpřístupněna.**



Nejsme první – neutronový reaktor v Grenoblu

- Institut Laue Langevin: <https://data.ill.fr> (login required)

Global Search
 Include experiments without data
 Search

Advanced Search
 My role in the experiment (?)
 All roles
 Cycle
 All cycles
 Instrument
 All Instruments
 Number / Title / Abstract (?)
 Proposer (?)
 Data Metadata or Numor (?)
 Include experiments without data
 Search

Experiments list
 8182 proposal(s) found with the given criteria (sorted by proposal number)

- 1-01-122 : In-situ analysis of Ta produced by the FFC Cambridge Process
- 1-01-126 : Stress ageing of a 15-5-PH martensitic stainless steels : SANS study of precipitation and spinodal decomposition
- 1-01-127 : Omega phase particles in LCB titanium alloy
- 1-01-129 : The study of the phase diagram for Fe-Al-Ge alloy, its relation to the mechanical and magnetic behavior.
- 1-01-130 : Application of neutron powder diffraction to the characterization of impulse atomized Al-Cu-Si droplets
- 1-01-131 : Comparative study of nanofeatures in ODS-FeCr alloys produced by different powder metallurgy based routes
- 1-01-132 : Early stages of precipitation in Ni-rich near-equiatomic Ni-Ti shape memory alloys
- 1-01-135 : Internal stresses after welding for age hardening materials: advanced modelisations vs neutrons characterizations
- 1-01-137 : In situ diffraction during casting: determination of rigidity point in grain refined Al-Cu alloys
- 1-01-139 : Magnetic ordering in Ni-Co-Mn-Sn-based ferromagnetic shape memory alloy (FSMA)
- 1-01-140 : Structure of high entropy alloys

Experiment 1-01-122

This proposal is publicly available since 12/06/2018

Title
 In-situ analysis of Ta produced by the FFC Cambridge Process

Abstract
 The FFC Cambridge process, invented in 2000, is an emergent extractive technology, able to electrochemically remove oxygen from metal oxides. In recent years the process has been taken a step further, with titanium, by co-reducing TiO₂ and other metal oxides in order to form Ti alloys in-situ. These works culminated in 2010, when the authors investigated the reduction of CP-Ti and Ni-Ti at the ESRF. Since then it has become clear that the commercial aspects of FFC Cambridge Process will be primarily focused on the formation of Ta. When investigating the phase transformations present in the Ta-O system it is clear that there are several ambiguous transformations present. During the FFC Cambridge reduction it becomes possible to form tertiary phases such as calcium tantalates, tantalum chlorides and oxychlorides. The high absorption coefficient of Ta and Ta oxides makes it unsuitable for ESRF synchrotron X-ray experimentation. Thus neutron diffraction presents itself as the ideal solution.

Planning
 Cycle 123 (from 24/10/2012 to 09/12/2012), instrument D20
 Cycle 132 (from 29/04/2013 to 13/06/2013), instrument D20

Sample(s)
 Ta2O5

DOI > 10.5291/ILL-DATA.1-01-122

This proposal is publicly available since 06/12/2018

Metadata

Identifier
 DOI: [doi:10.5291/ILL-DATA.1-01-122](https://doi.org/10.5291/ILL-DATA.1-01-122)

Authors
 BHAGAT ROHIT
 BRUNELLI Michela
 HUGHES Darren J
 LEUNG Puiki
 PILLIER John
 PIRLING Thilo

Publisher
 Institut Laue-Langevin

Publication year
 2013

Cycles
 20123 (24-10-2012 - 09-12-2012)
 20132 (29-04-2013 - 13-06-2013)

Instruments
 D20 (high flux 2-axis diffractometer with variable resolution)

Proposal number
 1-01-122

Experiment Parameters

Experiment energy
 1-3A

Title
 In-situ analysis of Ta produced by the FFC Cambridge Process

Abstract
 Abstract is not yet public

Experimental Report
 The experimental report is not available to download

Download Data
 Please note that you will need to login with your ILL credentials to download the data.
 Download Data

Data Citation
 The recommended format for citing this dataset in a research publication is in the following format:
 BHAGAT ROHIT, BRUNELLI Michela, HUGHES Darren J, LEUNG Puiki, PILLIER John and PIRLING Thilo. (2013). In-situ analysis of Ta produced by the FFC Cambridge Process. Institut Laue-Langevin (ILL) doi:10.5291/ILL-DATA.1-01-122

Cited by
 This data has not been cited by any articles.

Spalační zdroj v Anglii

- ISIS neutron Muon Source: <https://data.isis.stfc.ac.uk/>

Science & Technology Facilities Council

My Data Browse Search

PrNi5

Start Date

End Date

Investigation

Dataset

Datafile

Search

Search Results

Title	Visit Id	Size	Instrument	Start Date	End Date
PrNi5 RT Whit...	7 - HET	170.85 kB	HET	1991-11-06	2003-06-16
PrNi5 Cooling ...	10 - HET	3.93 MB	HET	1991-11-06	2003-06-16

Please note: only the top 300 results will be displayed for each entity type i.e. Visit, Dataset or Datafile

Science & Technology Facilities Council

ISIS Neutron and Muon Source Data Journal

This is a page describing data taken during an experiment at the ISIS Neutron and Muon Source. Information about the ISIS Neutron and Muon Source can be found at <https://www.isis.stfc.ac.uk>.

ISIS Neutron and Muon Source | ISIS Neutron and Muon Data

Using phonons to probe the hidden order in URu2Si2

Abstract: URu₂Si₂ exhibits a transition into a hidden order state below 17.5 K, in which there is no change of crystal structure or onset of large magnetic moment, but a huge release of entropy. Despite many years of study, the form of the order parameter remains unknown. The nature of the Fermi surface, and changes on entering the hidden order phase, is considered crucial. There is a paucity of information about the phonons in URu₂Si₂, which is surprising given that phonon spectra are highly sensitive to precise details of the band structure. We aim to establish a quantitative link between the phonons and band structure by comparing inelastic neutron scattering data throughout the Brillouin zone with ab-initio calculations using density functional theory. Changes in the phonon spectra, and hence band structure, on entering the hidden order phase may shed light on this long-standing problem.

Public release date: 23 June 2017

Principal Investigator: Dr Russell Ewings
Experimenter: Dr Helen Walker
Experimenter: Dr Keith Refson
Experimenter: Dr William Buyers
Experimenter: Dr Toby Perring
Experimenter: Dr Greg Tucker

DOI: 10.5286/ISIS.E.49915882

ISIS Experiment Number: RB1410265

Part Number: 1

Date of Experiment: 16 June 2014

Publisher: STFC ISIS Neutron and Muon Source

Data format: RAW/Nexus
 Select the data format above to find out more about it.

Data Citation

The recommended format for citing this dataset in a research publication is as:
 [author], [date], [title], [publisher], [doi]

For Example:
 Dr Russell Ewings et al; (2014): Using phonons to probe the hidden order in URu₂Si₂, STFC ISIS Neutron and Muon Source, <https://doi.org/10.5286/ISIS.E.49915882>

Contact Us Cookies/Privacy Terms & conditions Cymraeg FOI Copyright Sitemap Accessibility

Data collected on the MERLIN instrument at the ISIS facility

DOWNLOAD
download the dataset

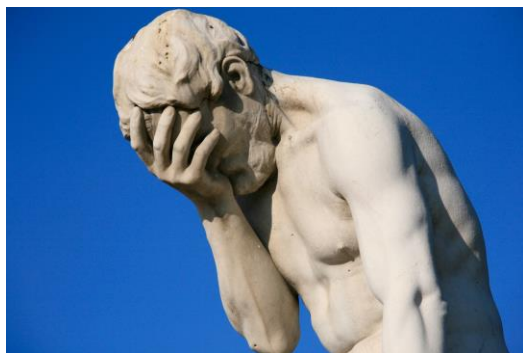
A co ta původní písmenka?

F.

- kdo má data najít?
- podle čeho?
- metadata

ILL Data Policy

It enables visitors to search all textual metadata related to an experiment and quickly retrieve all data of interest related to search criteria, while also implementing access restriction for data not yet public.



za loginem?



A co ta původní písmenka?

A.

- API pro stažení dat
 - neměnit způsob stahování!!!
 - problém se zabezpečením, vývoj protokolů
- Data zpřístupňovat bez nutnosti loginu!!

A co ta původní písmenka?

R.

- správná licence – je to vždy možné?
- zveřejnění všech metadat, logů, historie teplot atp.

➤ **MAKING DATA REUSABLE**
A strict CC0 license will allow unlimited reuse of all
MGML's produced datasets. Five years embargo period

A co ta původní písmenka?

I.

- Téměř nesplnitelné

→ Popis dat pomocí skriptů!

- 1) Veškerá manipulace s daty je reprodukovatelná
- 2) Verzování sw packages
- 3) Docker containery

→ Čermák, Petr (2021).

Talk: Describe data by scripts for future reuse. figshare. Presentation.
DOI:10.6084/m9.figshare.16869467.v1

In the year 2525

if man is still alive
if woman can survive,
they may find...

and use your data

Praxe: aneb jak je to ve skutečnosti

- Kdo chce sdílet data, nepotřebuje k tomu výzkumnou infrastrukturu
- Ostatní o sdílení nestojí

Náš cíl

- uživatele co nejméně obtěžovat
- education



Díky za pozornost

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