

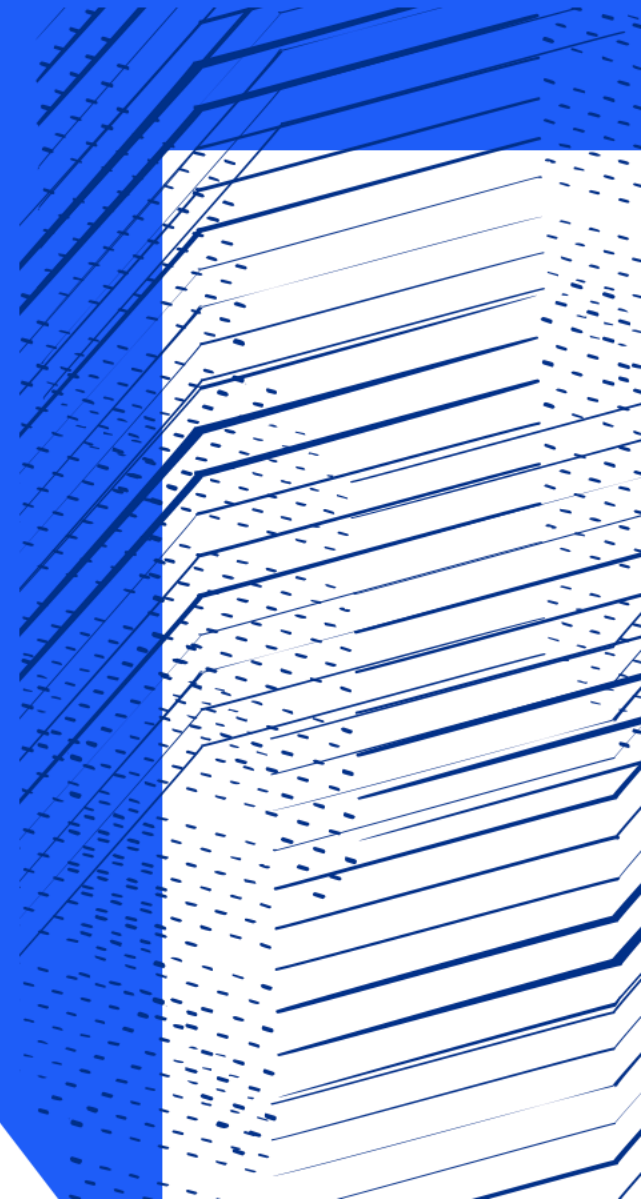


Science and  
Technology  
Facilities Council

# DataGateway

Louise Davies

ICAT Collaboration F2F Meeting  
Wednesday 3<sup>rd</sup> May 2023



# Agenda

**1 What is DataGateway?**

**2 New features**

**3 Upcoming features**





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# Introduction

- What is DataGateway?



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# DataGateway

- An interface reflecting the users **data journeys**
  - Considering both facility users and open data users
  - From data creation to data publication
    - Data provenance: Associate instrument setup with raw & processed data
    - DOI creation & workflows for data publication
  - Data discovery & data access
  - Rich metadata (moving to FAIR data)
  - Specialised data catalogue - information about the data hierarchies in each facility

# DataGateway

- DataGateway is a plugin to SciGateway
  - SciGateway provides common features to other front-ends such as:
    - Authentication, cookies management, dark mode, notifications etc
- React JS web application written in TypeScript using the MUI (Material UI) component library
- Replaced TopCAT for both ISIS and Diamond



# Screenshots!

The screenshot displays the DataGateway website interface. At the top, a dark blue navigation bar contains a hamburger menu icon, the 'DataGateway' logo, a 'Help' link, and utility icons for search, settings, and notifications, along with a 'Sign in' button. A left-hand sidebar lists navigation options: 'Browse', 'Facility Cycles', 'Experiments', 'My Data', 'Discover', 'Search', and 'Download'. The main content area features a large hero banner with a server room background and the text 'Data discovery and access for large-scale science facilities'. Below this is a prominent section titled 'Browse, explore and visualise experimental data', which includes a descriptive paragraph about data management in large-scale facilities and a 'Browse data' button. To the right of this section is a photograph of a complex industrial facility with yellow and purple machinery. At the bottom, three distinct panels are visible: 'Search' with a magnifying glass icon and a 'Search data' button; 'Download' with a download icon and a 'Download data' button; and 'ISIS Neutron and Muon Source' with a blue background, descriptive text, and a 'Read more' button. The bottom left corner features the UKRI Science and Technology Facilities Council logo and the text 'ISIS Neutron and Muon Source'.

Navigation: [DataGateway](#) [Help](#) [Sign in](#)

Left Sidebar: [Browse](#), [Facility Cycles](#), [Experiments](#), [My Data](#), [Discover](#), [Search](#), [Download](#)

## Data discovery and access for large-scale science facilities

### Browse, explore and visualise experimental data

Large scale facilities, such as synchrotrons, neutron and muon sources, lasers and accelerators, generate vast amounts of data that need to be managed in an efficient way, supporting data ingestion for long-term storage and archival, as well as data analysis and data publication workflows.

**DataGateway** focuses on providing data discovery and data access functionality to the data.

[Browse data](#)

#### Search

Search for the experimental data according to different criteria.

[Search data](#)

#### Download

Retrieve the experimental data using a variety of download methods.

[Download data](#)





#### ISIS Neutron and Muon Source



World-leading centre for research giving unique insights into the properties of materials on the atomic scale.

[Read more](#)

































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# Screenshots!

 [Help](#)    [Sign in](#)

[Home](#) > [Instruments](#) > [ALF](#) > [cycle\\_18\\_4](#) > [Investigations](#) [Open data](#) **Results: 23**  

**Display as cards** ✕ Clear filters

<input type="checkbox"/>	 Title <a href="#">Include</a> 	 RB Number <a href="#">Include</a> 	 DOI <a href="#">Include</a> 	 Size	 Principal Investigator <a href="#">Include</a> 	 Start Date ↓ From...  To... 	 End Date From...  To... 	Actions
<input type="checkbox"/>	Testing ALF for NTC practical	1830628		0 B		2019-03-21 08:00:00+00:00	2019-03-22 08:00:00+00:00	
<input type="checkbox"/>	Field effect of the magnetic ...	1910127	<a href="#">10.5286/ISIS.E.RB1910127</a>	501.63 MB	Mr Jun Zhao	2019-03-19 10:00:00+00:00	2019-03-21 10:00:00+00:00	
<input type="checkbox"/>	Detector test for ChipIR	1900056	<a href="#">10.5286/ISIS.E.RB1900056</a>	0 B	Dr Marica Rebai	2019-03-11 08:00:00+00:00	2019-03-16 08:00:00+00:00	
<input type="checkbox"/>	Detector test for ChipIR	1900056	<a href="#">10.5286/ISIS.E.RB1900056</a>	0 B	Dr Marica Rebai	2019-03-08 08:00:00+00:00	2019-03-11 08:00:00+00:00	
<input type="checkbox"/>	CAL_ALF_Long title	CAL_ALF_15/03/2019 11:...		246.18 MB		2019-03-05 10:49:44+00:00	2019-06-04 11:33:47+01:00	
<input type="checkbox"/>	Fractionalized spin excitatio...	1910128	<a href="#">10.5286/ISIS.E.RB1910128</a>	0 B	Mr Jun Zhao	2019-03-04 09:00:00+00:00	2019-03-05 09:00:00+00:00	
<input type="checkbox"/>	Investigation of magnon dyn...	1910605	<a href="#">10.5286/ISIS.E.RB1910605</a>	0 B	Dr Jhuma Sannigrahi	2019-03-01 08:00:00+00:00	2019-03-02 08:00:00+00:00	
<input type="checkbox"/>	Magnetic excitations in a ca...	1820500	<a href="#">10.5286/ISIS.E.RB1820500</a>	545.56 MB	Professor Radu Coldea	2019-02-26 09:00:00+00:00	2019-02-28 09:00:00+00:00	
<input type="checkbox"/>	Reserve	1535039		0 B		2019-02-25 08:00:00+00:00	2019-02-26 08:00:00+00:00	
<input type="checkbox"/>	CAL_ALF_Fast + thermal em...	CAL_ALF_25/02/2019 09:...		90.05 MB		2019-02-21 16:54:14+00:00	2019-02-26 07:41:49+00:00	
<input type="checkbox"/>	Spinon spectrum determinat...	1820078	<a href="#">10.5286/ISIS.E.RB1820078</a>	0 B	Dr Deepshikha Jaiswal Na...	2019-02-20 08:30:00+00:00	2019-02-22 09:00:00+00:00	
<input type="checkbox"/>	High resolution measureme...	1910592	<a href="#">10.5286/ISIS.E.RB1910592</a>	1.2 GB	Dr Russell Ewings	2019-02-20 00:00:00+00:00	2019-02-22 00:00:00+00:00	
<input type="checkbox"/>	Spin excitations in the first ...	1820002	<a href="#">10.5286/ISIS.E.RB1820002</a>	1.25 GB	Dr Hui-Qian Luo	2019-02-19 09:00:00+00:00	2019-02-20 11:18:22+00:00	
<input type="checkbox"/>	Dynamic spin correlation len...	1910247	<a href="#">10.5286/ISIS.E.RB1910247</a>	0 B	Dr Hui-Qian Luo	2019-02-16 08:00:00+00:00	2019-02-17 08:00:00+00:00	
<input type="checkbox"/>	NdMnO3 alignment Rot=-79 ...	18200002		6.16 MB		2019-02-14 11:34:10+00:00	2019-02-15 18:23:28+00:00	
<input type="checkbox"/>	Roles of magnetic anisotrop...	1820264	<a href="#">10.5286/ISIS.E.RB1820264</a>	1.12 GB	Dr SEIKH MOHAMMAD Y...	2019-02-12 09:00:00+00:00	2019-02-18 23:14:00+00:00	
<input type="checkbox"/>	Molecular dynamics in the ...	1910424	<a href="#">10.5286/ISIS.E.RB1910424</a>	0 B	Dr Manila Songvilay	2019-02-12 09:00:00+00:00	2019-02-12 15:00:00+00:00	

 Science and Technology Facilities Council  
ISIS Neutron and Muon Source

ISIS Home | [Privacy statement](#) | [Data policy](#) | [Accessibility statement](#) | [Contact](#) Built by the [Data and Software Engineering Group](#)

# Screenshots!

The screenshot displays the DataGateway web application interface. The top navigation bar includes the DataGateway logo, a Help link, and utility icons for search, settings, and notifications, along with a 'Sign in' button. The breadcrumb trail shows the path: Home > Instruments > ALF > cycle\_18\_4 > Investigations. A secondary navigation bar contains an 'Open data' button, a 'Results: 23' indicator, and search and cart icons. On the left, a sidebar menu lists navigation options: Browse, Facility Cycles, Experiments, My Data, Discover, Search, and Download. The main content area features a 'Display as table' button and a 'Clear filters' button. A pagination control shows '1' of 3 pages. A 'Sort By' dropdown menu is open, listing options: Title, Abstract, RB Number, DOI, Start Date (asc), and End Date. The first search result is titled 'Neutron scattering investigation of Lithium diffusion mechanism in the Li-ion battery material LiCoO2'. It includes a detailed abstract, a 'Show less' link, and a 'More Information' dropdown. To the right of the abstract, key metadata is listed: RB Number (1820387), DOI (10.5286/ISIS.E.RB18203...), Size (0 B), Principal Investigator (Dr SEIKH MOHAMMAD Y...), Start Date (2019-02-06 09:00:00+00:00), and End Date (2019-02-06 18:00:00+00:00). Action buttons for 'Add to selection' and 'Download' are provided. The second search result is partially visible, titled 'High resolution measurement of mode Grueneisen parameters in the neg...'. It also includes a partial abstract and metadata: RB Number (1910592), DOI (10.5286/ISIS.E.RB19105...), Size (1.22 GB), and Principal Investigator (Dr Russell Ewings).

**DataGateway** Help ? ⚙️ 🔔 [Sign in](#)

Home > Instruments > ALF > cycle\_18\_4 > Investigations 📄 Open data **Results: 23** 🔍 🛒

[Display as table](#) [Clear filters](#)

Show Advanced Filters

1 2 3 > >| Max Results 10

**Sort By**

- Title
- Abstract
- RB Number
- DOI
- Start Date asc ↑
- End Date

**Neutron scattering investigation of Lithium diffusion mechanism in the Li-ion battery material LiCoO2**

The compound LiCoO<sub>2</sub> has attracted lots of attention in the recent years because of its application as cathodes in Li-ion batteries. The diffusion pathway of Li-ions within a battery material is inherently important to its capacity to charge and discharge. Knowledge of the Li-ions diffusion pathways is expected to provide a vital know-how for the future battery research. The main aim of the present proposal is to find out the diffusion pathways and diffusion rates along different crystallographic directions by carrying out QENS measurements using the OSIRIS spectrometer. The quasi-elastic neutron scattering will give the information about the diffusion of Lithium, which will reveal the information about the diffusion constant. To complete the proposed measurements at four temperatures over 300-900 K, we need 6 days of neutron beam time at the OSIRIS spectrometer.

[Show less](#)

[More Information](#)

📄 RB Number: 1820387  
🌐 DOI: 10.5286/ISIS.E.RB18203...  
📄 Size: 0 B  
👤 Principal Investigator: Dr SEIKH MOHAMMAD Y...  
📅 Start Date: 2019-02-06 09:00:00+00:00...  
📅 End Date: 2019-02-06 18:00:00+00:00...

[Add to selection](#)

[Download](#)

**High resolution measurement of mode Grueneisen parameters in the neg...**

ZrW<sub>2</sub>O<sub>8</sub> is the classic example of a material exhibiting negative thermal expansion (NTE), i.e. lattice shrinkage on warming. The origin of this behaviour has been controversial for a long time, but is widely believed to be intimately linked to the lattice dynamics. Recent ab-initio studies have suggested that there is no single phonon mode that is responsible for the NTE, rather a collection of low energy modes all contribute. These same ab-

📄 RB Number: 1910592  
🌐 DOI: 10.5286/ISIS.E.RB19105...  
📄 Size: 1.22 GB  
👤 Principal Investigator: Dr Russell Ewings



# Screenshots!

Navigation: Home > Instruments > ALF > cycle\_18\_4 > Neutron scattering investigation of Lithium diffusion mec...

Buttons: Open data, Search, Shopping cart

UKRI Science and Technology Facilities Council

## ISIS Neutron and Muon Source

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>.

Investigation Details | View Datasets

### Neutron scattering investigation of Lithium diffusion mechanism in the Li-ion battery material LiCoO2

The compound LiCoO2 has attracted lots of attention in the recent years because of its application as cathodes in Li-ion batteries. The diffusion pathway of Li-ions within a battery material is inherently important to its capacity to charge and discharge. Knowledge of the Li ions diffusion pathways is expected to provide a vital know-how for the future battery research. The main aim of the present proposal is to find out the diffusion pathways and diffusion rates along different crystallographic directions by carrying out QENS measurements using the OSIRIS spectrometer. The quasi-elastic neutron scattering will give the information about the diffusion of Lithium, which will reveal the information about the diffusion constant. To complete the proposed measurements at four temperatures over 300-900 K, we need 6 days of neutron beam time at the OSIRIS spectrometer.

#### Investigation Users

**Principal Investigator:** Dr SEIKH MOHAMMAD YUSUF  
**Local Contact:** Dr Sanghamitra Mukhopadhyay  
**Experimenter:** Dr Amit Kumar  
**Experimenter:** Dr Anil Jain

#### Publisher

STFC ISIS Neutron and Muon Source

#### Data Citation

The recommended format for citing this data can be found below. You can also select your preferred format here:

nature ▾

Dr SEIKH MOHAMMAD YUSUF, Dr Anil Jain, Dr Sanghamitra Mukhopadhyay & Dr Amit Kumar. 1820387. (2019) doi:10.5286/ISIS.E.RB1820387-3.

[Copy citation](#)

#### Investigation Samples

LiCoO2

#### Publications

No publications

Experiment Part:	3
DOI:	10.5286/ISIS.E.RB1...
Parent DOI:	10.5286/ISIS.E.RB1...
RB Number:	1820387
Size:	0 B
Instrument:	ALF
Data Format:	RAW/Nexus
Public Release:	2022-02-06
Start Date:	2019-02-06
End Date:	2019-02-06

[Add to selection](#)

# Screenshots!

The screenshot shows the DataGateway search interface. The search term 'chocolate' is entered in the search bar. The results are displayed in a table with columns for Title, Experiment, RB Number, DOI, Size, Instrument, Start Date, and End Date. There are 12 investigations listed, each with a checkbox and a dropdown arrow. The table is filtered to show 12 investigations, 0 datasets, and 0 datafiles. The page includes a navigation menu on the left, a search bar at the top, and a footer with contact information and a logo for the Science and Technology Facilities Council.

**Navigation:** Browse, Facility Cycles, Experiments, My Data, Discover, Search, Download

**Search Bar:** Search for investigations, datasets and datafiles. Search term: chocolate. Types (3). Start date, End date. Search button.

**Filters:** Display as cards, Clear filters. Only the top 300 results will be displayed for each type.

**Results Summary:** Investigation 12, Dataset 0, Datafile 0

Title	Experiment	RB Number	DOI	Size	Instrument	Start Date	End Date
Include	Inclu	Inclu	Inclu		Inclu	From.. To...	From.. To...
<input type="checkbox"/> Quantifying the adsorption of lecithin on sucrose particles to understand chocolate rheology	1 - LOQ	1210237	10.5286/IS...	295.57 MB	LOQ	2012-07-20	2012-07-23
<input type="checkbox"/> Using SANS to understand the structure and behaviour of surfactants in chocolate	1	1510438	10.5286/IS...	7.74 GB	SANS2D	2015-03-28	2015-03-29
<input type="checkbox"/> Using SANS to understand the structural basis for the rheology of molten chocolate	1	1610283	10.5286/IS...	529.53 MB	SANS2D	2016-07-27	2016-07-29
<input type="checkbox"/> Using neutron reflectivity to understand the structural basis for the rheology of molten chocolate	1	1600043	10.5286/IS...	771.25 MB	OFFSPEC	2016-07-14	2016-07-18
<input type="checkbox"/> Using SANS to understand the structural basis for the rheology of molten chocolate	1	1710424	10.5286/IS...	580.97 MB	SANS2D	2017-05-23	2017-05-24
<input type="checkbox"/> SAXS and SANS measurements on chocolate surfactants in triglyceride oils	1	1720334	10.5286/IS...	0 B	SANS2D	2017-11-17	2017-11-18
<input type="checkbox"/> SAXS and SANS measurements on chocolate surfactants in triglyceride oils	2	1720334	10.5286/IS...	0 B	SANS2D	2017-12-13	2017-12-14
<input type="checkbox"/> Measuring the reflectivity from molten chocolate sandwiches	1	1720367	10.5286/IS...	0 B	INTER	2017-12-16	2017-12-17
<input type="checkbox"/> Using SESANS to complete our understanding of the structural basis for the rheology of molten chocolate	1	1720354	10.5286/IS...	0 B	LARMOR	2017-11-20	2017-11-23
<input type="checkbox"/> Measuring the reflectivity from molten chocolate sandwiches	2	1720367	10.5286/IS...	139.08 MB	INTER	2018-03-19	2018-03-21
<input type="checkbox"/> SAXS and SANS measurements on chocolate surfactants in triglyceride oils	3	1720334	10.5286/IS...	791.55 MB	SANS2D	2018-03-02	2018-03-05
<input type="checkbox"/> Using SESANS to complete our understanding of the structural basis for the rheology of molten chocolate	2	1720354	10.5286/IS...	4.71 GB	LARMOR	2018-03-15	2018-03-19

**Footer:** UKRI Science and Technology Facilities Council. ISIS Neutron and Muon Source. ISIS Home | Privacy statement | Data policy | Accessibility statement | Contact. Built by the Data and Software Engineering Group.

# Screenshots!

Navigation: [DataGateway](#) [Help](#) [Sign in](#) [?](#) [⚙️](#) [🔔](#)

Left sidebar: [Browse](#), [Facility Cycles](#), [Experiments](#), [My Data](#), [Discover](#), [Search](#), [Download](#)

Table: Selection | Downloads

Name	Type	Size	File Count	Actions
Include	Include			
1210237	investigation	295.57 MB	707	⊖
raw	dataset	7.74 GB	324	⊖
OFFSPEC00039699_Status.txt	datafile	56 B	1	⊖
OFFSPEC00039699.log	datafile	87.59 KB	1	⊖
OFFSPEC00039698.nxs	datafile	2.49 MB	1	⊖
OFFSPEC00039699_ICPdebug.txt	datafile	7.84 KB	1	⊖
OFFSPEC00039699.nxs	datafile	1.95 MB	1	⊖
OFFSPEC00039698_ICPdebug.txt	datafile	7.42 KB	1	⊖
OFFSPEC00039698_ICPevent.txt	datafile	285 B	1	⊖
OFFSPEC00039698_Status.txt	datafile	56 B	1	⊖
OFFSPEC00039699.raw	datafile	3.93 MB	1	⊖
OFFSPEC00039699_ICPevent.txt	datafile	285 B	1	⊖

Summary: Number of files: 1041, Total size: 8.04 GB

Buttons: [Remove All](#) [Download Selection](#)

Footer: ISIS Neutron and Muon Source | [ISIS Home](#) | [Privacy statement](#) | [Data policy](#) | [Accessibility statement](#) | [Contact](#) | Built by the [Data and Software Engineering Group](#)

# Screenshots!

The screenshot shows the DataGateway web interface. The top navigation bar includes the DataGateway logo, 'Help', and 'Admin' links. On the right side of the navigation bar are icons for help, settings, notifications, and user profile. Below the navigation bar, the main content area displays 'Results: 1' and a search icon. A 'Clear filters' button is visible. A 'Select role' dropdown menu is set to 'pi'. Below this, there is a table with columns for various attributes, each with an 'Include' button and a settings gear icon. The table contains one row of data.

<input type="checkbox"/>	<b>T</b> Title Include	DOI Include	Visit ID Include	<b>T</b> Name Include	Instrument Include	Size	Start Date ↓ From... To...	End Date From... To...
<input type="checkbox"/>	▼ Star enter wide nearly off. Base remember toward weight including call nearly ...	0-934113-68-8	72	INVESTIGATION 15	Respond between fri...	11.94 GB	2003-08-05 00:00:00...	2003-11-19 00:00:00...





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# New Features



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# Misc “new” features
















- Automatic anonymous login
- Citation formatter
- Role selector in My Data view
- Dark mode & high contrast mode(s)
- Card view

And many more minor improvements & features

# Download progress bars

- Requested by Diamond
- Kevin made new IDS – ids.r2dfoo which provides the progress information
- Visible both to users and to facility admins

 Last checked: 28/04/2023, 10:48:45

Download Name	Access Method	Availability	Progress	Requested Date ↓ From...  To... 	Actions
Include 	Include 	Include 			
Test 5	globus	Paused	<div style="width: 56%;"><div style="width: 56%;"></div></div> 56%	2023-03-01 15:57:28	 
Test 4	globus	Expired		2023-02-28 15:57:28	 
Test 3	https	Restoring from tape	<div style="width: 29%;"><div style="width: 29%;"></div></div> 29%	2023-02-27 15:57:20	 
Test 2	globus	Preparing	<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	2023-02-26 15:05:35	 
Test 1	https	Available		2023-02-25 15:05:29	 

# File previews

Feature to view files directly in the data catalogue

Currently focusing on plain text files (.e.g .txt & .log)

Plans to integrate a HDF viewer to visualise .nxs files

Home Instruments MER cycle\_20\_2 CAL\_MERLIN\_Quiet Counts (Internal Clock) DS- MER50533\_ICPdebug.txt

DOWNLOAD COPY LINK ZOOM IN ZOOM OUT 100% Show details

```
1 2020-09-14T09:01:31 *** Timing information for refreshCachedValues: real(0.057614) thread(kernel=0, user=0.03125) process(kernel=0, user=0.0625)
2 2020-09-14T09:01:31 *** Timing information for CRPTProxy::unloadCRPT: real(0) thread(kernel=0, user=0) process(kernel=0, user=0)
3 2020-09-14T09:01:31 *** Timing information for CRPTProxy::loadCRPT: real(0.013671) thread(kernel=0, user=0.015625) process(kernel=0.015625, user=0.03125)
4 2020-09-14T09:01:31 *** Timing information for CRPTProxy::updateFrom: real(0.455049) thread(kernel=0.421875, user=0.03125) process(kernel=0.421875, user=0.484375)
5 2020-09-14T09:01:31 *** Timing information for CRPTProxy::createFrom: real(0.496062) thread(kernel=0.421875, user=0.0625) process(kernel=0.453125, user=0.5625)
6 2020-09-14T09:01:31 *** Timing information for END 50532: real(2.40414) thread(kernel=0.46875, user=0.5) process(kernel=0.671875, user=1.32813)
7 2020-09-14T09:01:36 *** Timing information for refreshCachedValues: real(0.050778) thread(kernel=0, user=0.03125) process(kernel=0, user=0.109375)
8 2020-09-14T09:01:36 BEGIN run 50533
9 2020-09-14T09:01:36 Data dae table has changed since last load; old values will still be used
10 2020-09-14T09:01:36 Run started in software period 1
11 2020-09-14T09:01:37 *** Timing information for CRPTProxy::updateFrom: real(0.329081) thread(kernel=0.15625, user=0.171875) process(kernel=0.15625, user=0.5)
12 2020-09-14T09:01:37 Setting up DAE
13 2020-09-14T09:01:37 Highest dae, detector card, crate number used = 0, 7, 7
14 2020-09-14T09:01:37 Number of time regimes = 2
15 2020-09-14T09:01:37 CRPT memory used for histograms = 631 Mb
16 2020-09-14T09:01:37 Number of periods (daq, total) = (1, 1)
17 2020-09-14T09:01:37 Resetting DAE - ignore veto counter values as not yet cleared
18 2020-09-14T09:01:37 Using 0 data into dae cards
19 2020-09-14T09:01:37 FIFO Veto() is ENABLED (vetoed 0) frames
20 2020-09-14T09:01:37 SMP (chopper) Veto() is DISABLED (counted 0) frames
21 2020-09-14T09:01:37 Internal Veto() is DISABLED (counted 0) frames
22 2020-09-14T09:01:37 Fermi Chopper0 Veto() is ENABLED (vetoed 0) frames
23 2020-09-14T09:01:37 TS2 Pulse Veto() is DISABLED (counted 0) frames
24 2020-09-14T09:01:37 ISIS 50 Hz Veto() is DISABLED (counted 0) frames
25 2020-09-14T09:01:37 HS Mode Veto() is DISABLED (counted 0) frames
26 2020-09-14T09:01:37 External Veto 0() is DISABLED (counted 30267) frames
27 2020-09-14T09:01:37 External Veto 1() is DISABLED (counted 0) frames
28 2020-09-14T09:01:37 External Veto 2() is DISABLED (counted 0) frames
29 2020-09-14T09:01:37 External Veto 3() is DISABLED (counted 0) frames
30 2020-09-14T09:01:37 Starting clear of DAE memory try 0 on 8 cards, thread ID 28904
31 2020-09-14T09:01:39 Clear DAE memory: 1/8 complete
32 2020-09-14T09:01:41 Clear DAE memory: 2/8 complete
33 2020-09-14T09:01:41 Clear DAE memory: 3/8 complete
34 2020-09-14T09:01:41 Clear DAE memory: 4/8 complete
35 2020-09-14T09:01:41 Clear DAE memory: 5/8 complete
36 2020-09-14T09:01:41 Clear DAE memory: 6/8 complete
```

**Datafile Details**

**Name**  
MER50533\_ICPdebug.txt

**Description**  
Unknown

**Size**  
11.41 KB

**Location**  
\\isis\inst\$\INDEX\MERLIN\Instrument\data\cycle\_20\_2\MER50533\_ICPdebug.txt

**Last modified on**  
2022-07-25 13:07:53.265000+01:00

**Created on**  
2022-07-25 13:07:53.265000+01:00





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# Works in Progress

- Data publications
- Search improvements
- Etherpad
- Machine learning explorations



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# Data Publications

Metadata changes enable use of integrated DOI landing pages in DataGateway

Will be able to better explore published data in DG

Plans to enable DOI minting of user defined selections of data (see Alex' talk)



The screenshot displays the DataGateway interface for a specific experiment. The breadcrumb trail is: Home > Instruments > GEM > cycle\_19\_3 > Experimental validation of solid hydrogen phases... The page title is "ISIS Neutron and Muon Source". The main heading is "Experimental validation of solid hydrogen phases in porous materials via neutron diffraction". The abstract describes the experimental setup and goals. The "Investigation Users" section lists the Principal Investigator (Professor Valeska Ting) and several experimenters. The "Publisher" is identified as STFC ISIS Neutron and Muon Source. The "Data Citation" section provides the recommended citation format and a DOI link. The "Investigation Samples" section lists "TE7 Carbon". The "Publications" section indicates "No publications". On the right side, there is a metadata table with fields like Experiment Part, DOI, Parent DOI, RB Number, Size, Instrument, Data Format, Public Release, Start Date, and End Date. Below the table are buttons for "Add to selection", "Dataset: raw", "Add to selection", and "Download".

Field	Value
Experiment Part	1
DOI	10.5286/ISIS.E.RB1910...
Parent DOI	10.5286/ISIS.E.RB1910...
RB Number	1910448
Size	5.11 GB
Instrument	GEM
Data Format	RAW/Nexus
Public Release	2022-11-22
Start Date	2019-11-19
End Date	2019-11-22

# User Defined Data Publications

BROWSE

Proposal

DOIs

My Data

My DOIs

DISCOVER

Search

Download

Home > Generate DOI

## Generate DOI

### Details

### Creators

Personal  Organisation

Add Creator

Name	Affiliation	Email	Type	Action
Alex Kemp	University of Bath	alex.kemp@bath.ac.uk	Organisation	Delete

Generate DOI

### Data

Visit Dataset Datafiles

Title	Size	File count
<a href="#">Kamin-K1_1_dnfiles</a>	295.57 MB	1
<a href="#">Kamin-K1_1_dnfiles</a>	295.57 MB	1

# Search improvements

Search functionality in DG is being improved:

- Sort by search relevance
- Filter by parameters & samples
- Search more than top 300 results
- More fields are searchable & you can now search on specific fields
- Synonyms support



# Search improvements

Search for investigations, datasets and datafiles

Types (1) ▾

Start date 

End date 

Sort by

Score ▾

My data

SEARCH

For example "[instrument calibration](#)" or [neutron AND scattering](#). See all [search options](#).

DISPLAY AS TABLE

CLEAR FILTERS

INVESTIGATION 300+



## Filters

Type ▾

Parameter name

bcat\_inv\_str 300

run\_number\_range 300

Parameter filters +

No parameter filters

### New parameter filter

Parameter name

bcat\_inv\_str ▾

Parameter type

String ▾

DAK/CCW - RAL 33

ccw - RAL 26

CCW - RAL 19

CCW/DAK - RAL 13

Kley - ISPRA 12

ccw/dak - RAL 12

Wavy/Chiques - RAL 11

dak/ccw - RAL 11

RLM - Clarendon 8

< 1 2 3 4 5 ... 31 > >|

Max Results

10 ▾

[Instrument calibration w=-25.3](#)

Description available

Visit ID: 1 - SXD

Name: 32

Dataset Count: Unknown

Instrument: SXD

Start Date: 08/05/1989

End Date: 08/10/2003

Information ▾

[multenite w=0 arcs=0,0](#)

Description available

Visit ID: 2 - SXD

Name: 32

Dataset Count: Unknown

Instrument: SXD

Start Date: 01/08/1989

End Date: 08/10/2003

# Etherpad in DataGateway

Based on discussion with Alex de Maria about ESRF's setup, will need:

- Etherpad (lite) instance
- Auth plugin to Etherpad
- Changes to DataGateway

Will Edwards currently working on this at STFC as part of 6-month apprenticeship rotation

# DataGateway Implementation?

The screenshot displays the DataGateway web application interface. At the top, there is a navigation bar with the DataGateway logo, a 'Help' link, and utility icons for search, settings, and notifications. A breadcrumb trail shows the path: Home > Instruments > ALF > cycle\_19\_4 > NTC single crystal alignment practical. A sidebar on the left contains navigation options: Browse, Facility Cycles, Experiments, My Data, Discover, Search, and Download. The main content area features the UKRI Science and Technology Facilities Council logo and the title 'ISIS Neutron and Muon Source'. Below this, there is a description of the data and a link to the source website. The interface includes tabs for 'Investigation Details', 'View Datasets', and 'Report'. An Etherpad editor is embedded in the center, showing a document with the following text:

1 Welcome to Etherpad!  
2  
3 This pad text is synchronized as you type, so that everyone viewing this page sees the same text. This allows you  
4 to collaborate seamlessly on documents!  
5  
6 Get involved with Etherpad at <https://etherpad.org>  
7  
8 Warning: DirtyDB is used. This is not recommended for production. -- To suppress these warning messages  
change `suppressErrorsInPadText` to true in your settings.json

The footer contains the UKRI Science and Technology Facilities Council logo, the text 'ISIS Neutron and Muon Source', and a navigation menu with links for 'ISIS Home', 'Privacy statement', 'Data policy', 'Accessibility statement', and 'Contact'. On the right side of the footer, it states 'Built by the Data and Software Engineering Group'.

# Machine learning features

- New backend app has been developed using ML techniques to analyse ICAT data and provide insights
- First feature is recommending similar investigations based on the summary & title
- Future features around clustering & integrating with search are also being explored



# Machine learning features

Home > Instruments > CHIPIR > cycle\_18\_4 > SEE studies on power devices and memories for ...



INVESTIGATION DETAILS VIEW DATASETS

### SEE studies on power devices and memories for high-energy accelerator applications

Following the radiation tests carried out on March 2018, the R2E project team (CERN) would ask for 3 full days of beam time to study the response of several commercial components and systems of interest for high-energy accelerator applications, under the unique neutron spectrum provided at the ChiPIR facility. Among others, the test would include the analysis of SEE (SEU and SEL) rates induced on several SRAM and flash memories and FPGA boards. In addition, a study of hard error (SEB and SEGR) sensitivity on several medium voltage (below 500 V) silicon power MOSFETs and other wide bandgap power devices will be performed. Finally, the test campaign will include the irradiation of several sensors (silicon PiN diodes and optical fibers) with dosimetry purposes.

#### Investigation Users

**Principal Investigator:** Dr Pablo Fernández Martínez

**Local Contact:** Dr Carlo Cazzaniga

**Experimenter:** Mr Matteo Cecchetto

**Experimenter:** Mr Nourdine KERBOUB

**Experimenter:** Ms Vanessa Wyrwoll

#### Publisher

STFC ISIS Neutron and Muon Source

#### Data Citation

The recommended format for citing this data can be found below.

*Dr Pablo Fernández Martínez et al; 2019: SEE studies on power devices and memories for high-energy accelerator applications, STFC ISIS Neutron and Muon Source*

[COPY CITATION](#)

#### Investigation Samples

Semiconductor devices and electronic boards (Silicon, packaging and PCB)

#### Publications

No publications

#### Similar investigations

< 1 2 3 4 5 ... 13 >

[error](#) [errors](#) [neutrons](#) [soft](#)

[devices](#) [memories](#) [technology](#)

[radiation](#) [nm](#) [finfet](#)

[Statistical variability of neutron-induced soft errors in advanced Flash Memories](#)

[SRAM Single Event Latchup measurements in an atmospheric-like neutron environment](#)

[NEUTRON INDUCED SOFT ERRORS ON ELECTRONIC DEVICES](#)

[Neutron-induced soft errors in Flash Memories with feature size down to 16 nm](#)

[Neutron-induced soft errors in Flash Memories with feature size down to 16 nm](#)

#### Extra info

🔗 Visit ID: 1z

🌐 Parent DOI: [10.5286/ISIS.E/1...](#) z

🔗 Name: 1900114z



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# Questions?



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# Thank you



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