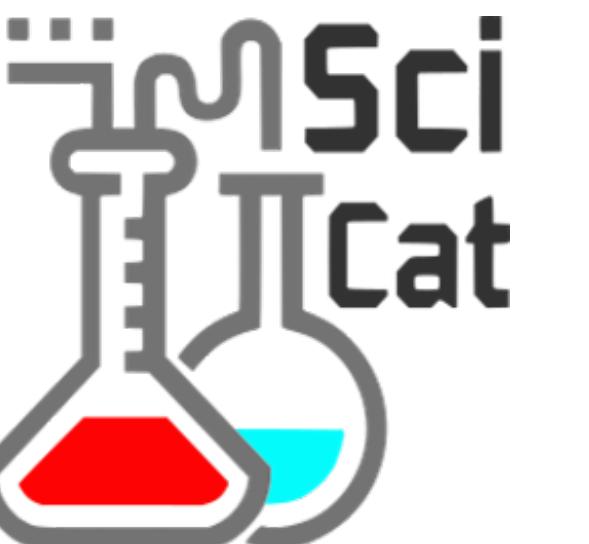


# ESS PaNOSC GA WP3 status update

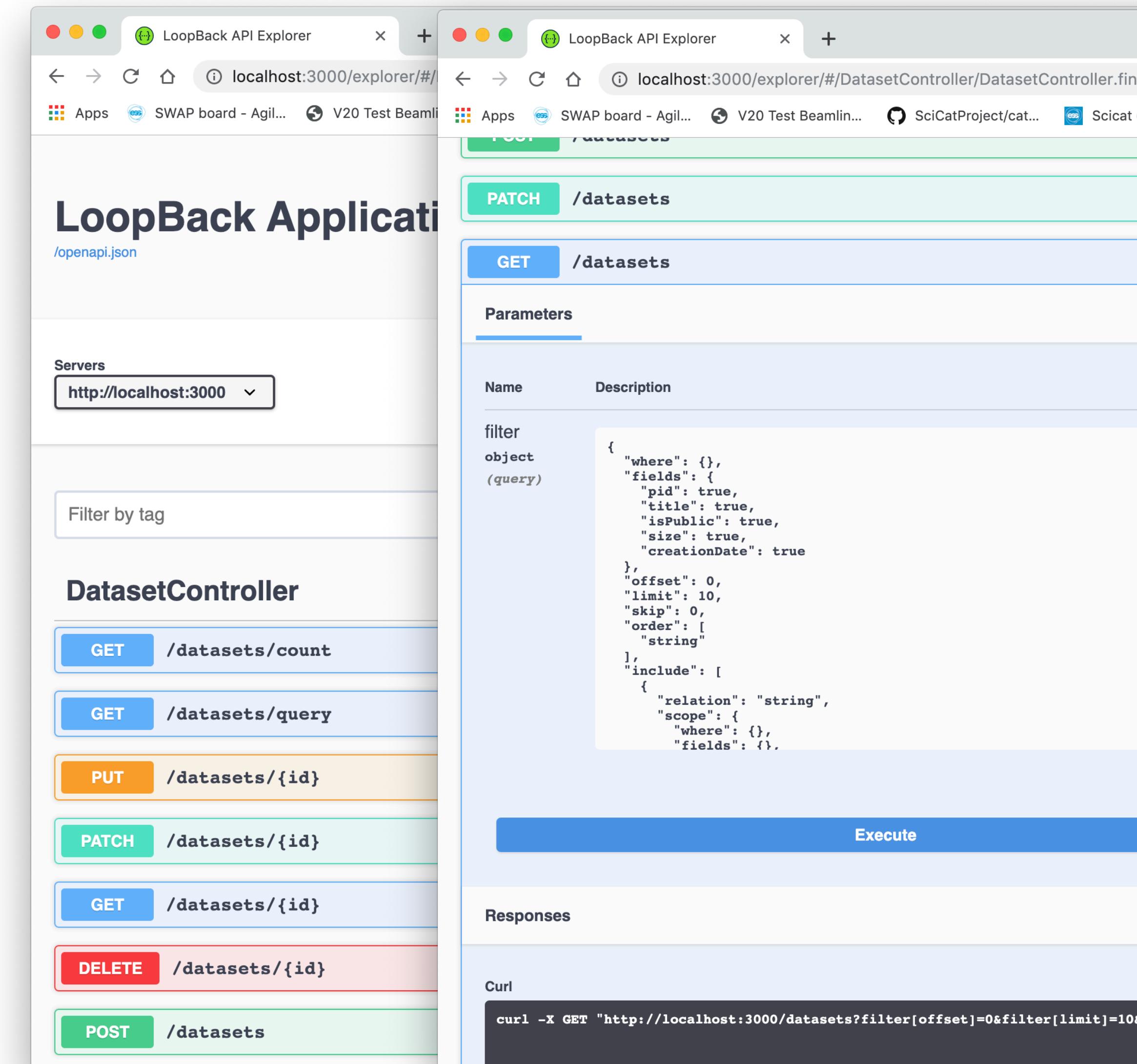
Gareth Murphy  
Scientific Web Applications Team



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# ESS PaNOSC WP3 Status update

- Common-api now available
  - <https://confluence.panosc.eu/display/wp3/Common+API>
  - Datasets, documents, samples, instrument etc implemented in loopback 4
    - Unit tests added for datasets
    - Can query e.g. pressure greater than 100 ml
    - Check it out at <https://github.com/panosc-eu/common-api>



# Status update contd.

- Ontology for techniques
- <https://confluence.panosc.eu/display/wp3/PaNOSC+Scientific+Techniques>
- Contact scientists and ask for feedback

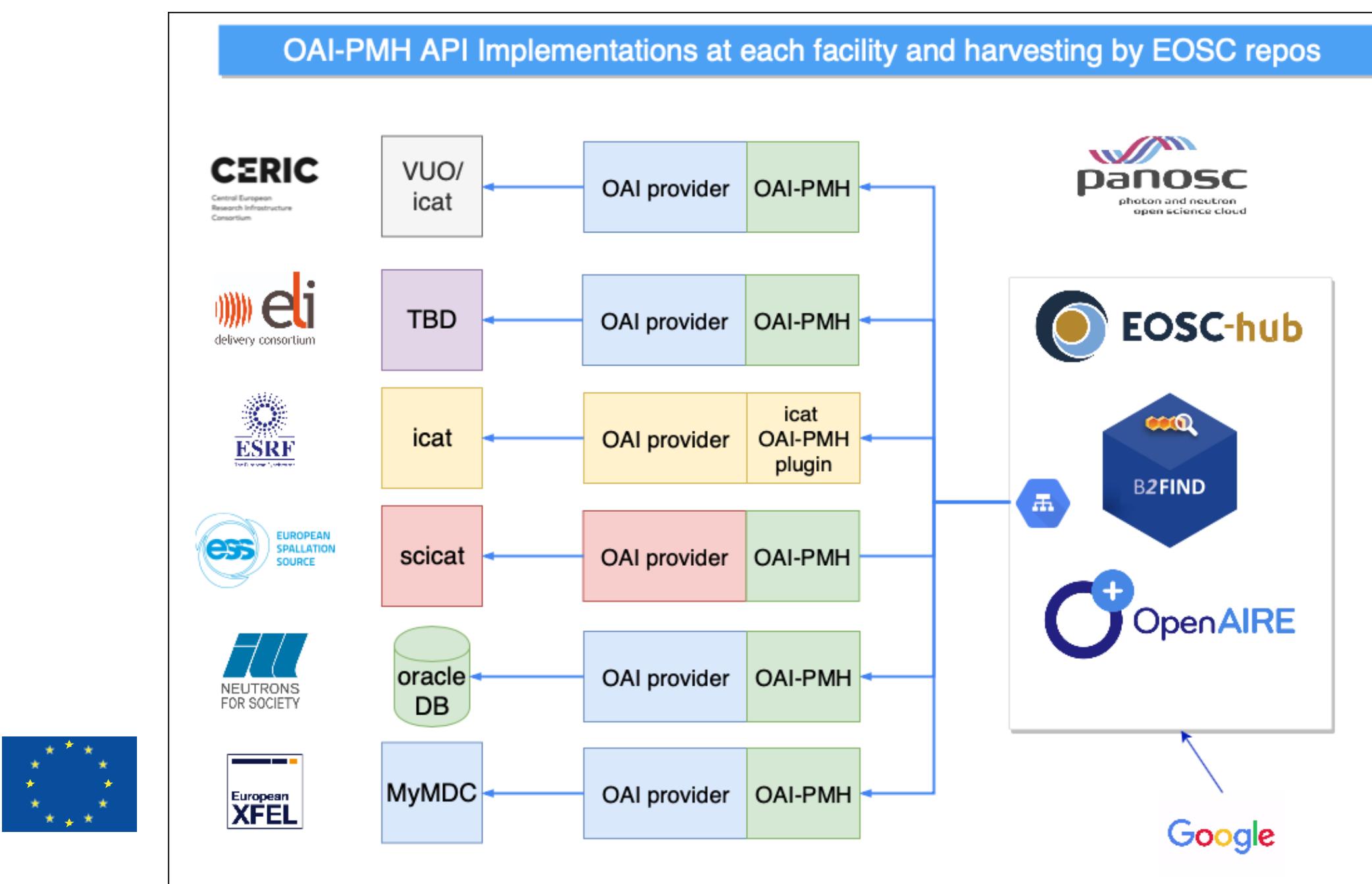
The screenshot shows a web browser window with the following details:

- Title Bar:** confluence.panosc.eu
- Page Header:** Spaces ▾
- Page Title:** WP3 - Data Catalogue Services
- Page Content:**
  - Pages:** (highlighted)
  - Blog
  - PAGE TREE:**
    - Common API
    - NeXus Show and Tell Slides
    - OAI-PMH API Implementations at e
    - PaN Example files
    - PaNOSC and ExPaNDS Proposals
    - PaNOSC Scientific Techniques** (highlighted)
    - Use of federated FAIR Data API by
    - WP3 Deliverables & Milestones
    - WP3 FAIR Data API
    - WP3 Workshops
- Bottom Navigation:** Space tools, «
- Right Panel:**
  - Dashboard / WP3 - Data Catalogue Services
  - PaNOSC Scientific Techniques**
  - Created by Gareth Murphy, last modified on Oct 25, 2019
  - A large list of scientific techniques:
    - Absorption Contrast Imaging
    - Angle resolved photoemission spectroscopy
    - Dichroism
    - Diffraction
    - Diffuse SAS
    - Diffusion MRI
    - Diffusive
    - Emission spectroscopy
    - Fluorescence Luminescence
    - Fluorescence spectroscopy
    - Fluorescence tomography
    - Gamma spectroscopy
    - Grazing incidence diffraction
    - Grazing incident SAS
    - Hard photoelectron spectroscopy
    - High resolution photoelectron spectroscopy
    - Holography
    - Imaging
    - Inelastic SAS
    - Inelastic scattering spectroscopy
    - Infrared Microspectroscopy
    - Luminescence
    - Mass separator spectrometry
    - Microfluorescence
    - Microscopy
    - Muon spectroscopy
    - Optical spectroscopy
    - Phase Contrast Imaging
    - PhotoEmission Electron Microscopy
    - Photon correlation spectroscopy
    - Polarised reflectivity
    - Powder diffraction



# Status update contd.

- **Linking scicat with jupyterhub**
- **Adding sets to OAI PMH for OpenAIRE (Open Access Infrastructure for Research in Europe)**
- **Milestone catalogue API survey**



**SciCat ESS test**

Datasets / 20.500.12269/62075348-cfe5-11e9-9141-c8f75089fb03nicos 00000759.hdf /

Jupyter Hub

About the data

- Name: BCC plate Transmission SP2deg, slit2=8x20, slit3=10x20
- Description: V20 data
- Owner: Robin Woracek
- PID: 20.500.12269/62075348-cfe5-11e9-9141-c8f75089fb03nicos
- Source Folder: /nfs/groups/beamlines/v20/DD1F5G
- Keywords: v20, neutron

Structural information

- Type: raw
- Version: 3.0.1
- Proposal: DD1F5G
- Sample: 1WDhKvBap
- Orcid: orcid.org/0000-0002-3526-8192

Administrative information

- Creation Time: 2019-09-09 08:16
- Principal Investigator: Tobias Richter

In [34]:

```
import scicat
result=scicat.search("hbn",1)
print(result[0]["scientificMetadata"].get("sample_descript")
print(result[0]["sourceFolder"])
```

1 result found!  
hBN target with 1.0 mm diameter hole  
/nfs/groups/beamlines/v20/67JH32

In [35]:

```
file = h5py.File("nicos_0000490.hdf", "r")
event_path = "/entry/monitor_1/events/event_id"
pulse_height = file[event_path][:]
_, axp = plt.subplots()
phs, edgesp = np.histogram(pulse_height, bins=200)
axp.errorbar(edgesp[:-1], phs, lw=1, yerr=np.sqrt(phs),
marker=marker, markersize=markersize,
axp.set_xlabel('Channel')
axp.set_ylabel('Raw counts')
axp.set_title('PHS')
plt.show()
```

Raw counts

Channel

**Searching Scicat from Jupyter notebook**

**jupyter Search SciCat-Plot (autosaved)**

You can search the ESS metadata catalogue, SciCat from a Jupyter notebook.

**Example use**

Search for e.g. hexagonal boron nitride (hbn). Show sample description, print location

**OpenAIRE**

Raw counts

Channel

PHS

# Future plans

- Finish Milestone 3.1 Survey (deadline: M12)
- Add Panosc use cases to common api
- [https://github.com/panosc-eu/panosc/  
blob/master/Work%20Packages/  
WP3%20Data%20catalogue%20servic  
es/UseCases.md](https://github.com/panosc-eu/panosc/blob/master/Work%20Packages/WP3%20Data%20catalogue%20services/UseCases.md)
- Link to Panosc demonstrator (task 3.2)
- Finalize common api
- Finish OpenAire registration

Scientific Use Cases	
Actor	Story
Scientist	I would like to know the states of Machine (i.e Energy) during an experiment
PTM	I would like to search for all metadata produced from the experiment (note that this are application specific)
Scientist	I would like to know the type of the software used for the analysis of data
Scientist	I want to be able to search for all data on water at the PanOSC facilities
Scientist	I would like to search for experiments/datasets by a particular metadata entity [eg sample, formula, title, scientific technique, sample type]
Scientist	I would like to search for detector type
Scientist	I would like to know the instruments setup
Scientist	I would like to retrieve the logbook of an experiment
Scientist	I would like to find all experimental data associated with a proposalId or experimental number
Scientist	I would like to find all experimental data matching abstract/protocol text

