Unified access to photon and neutron data throughout Europe

The SciCat implementation of the PaNOSC Search

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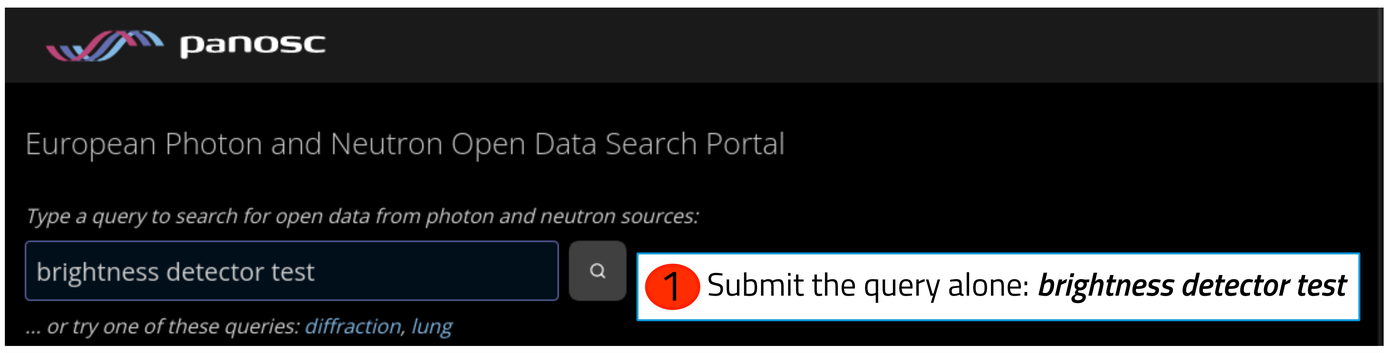
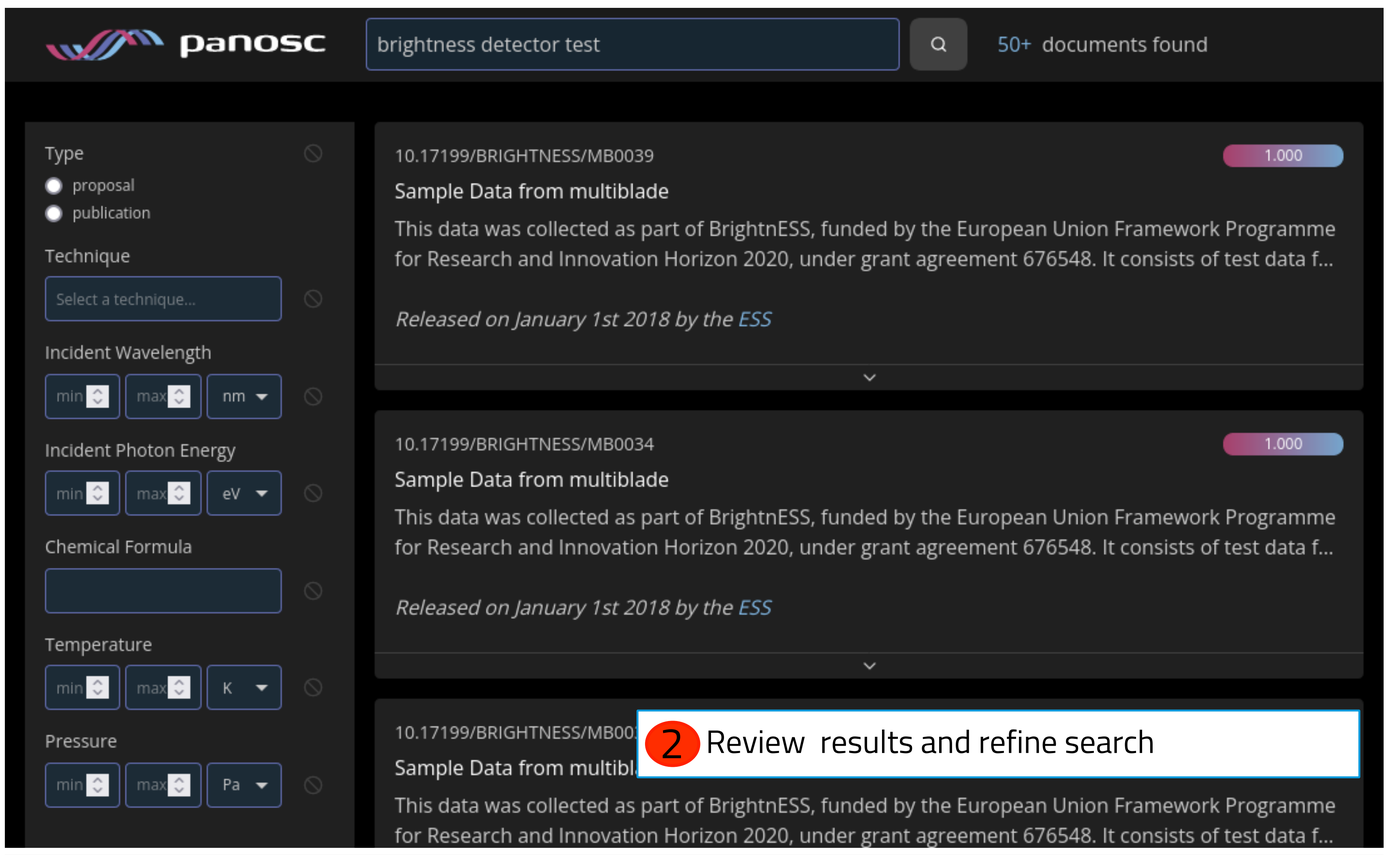
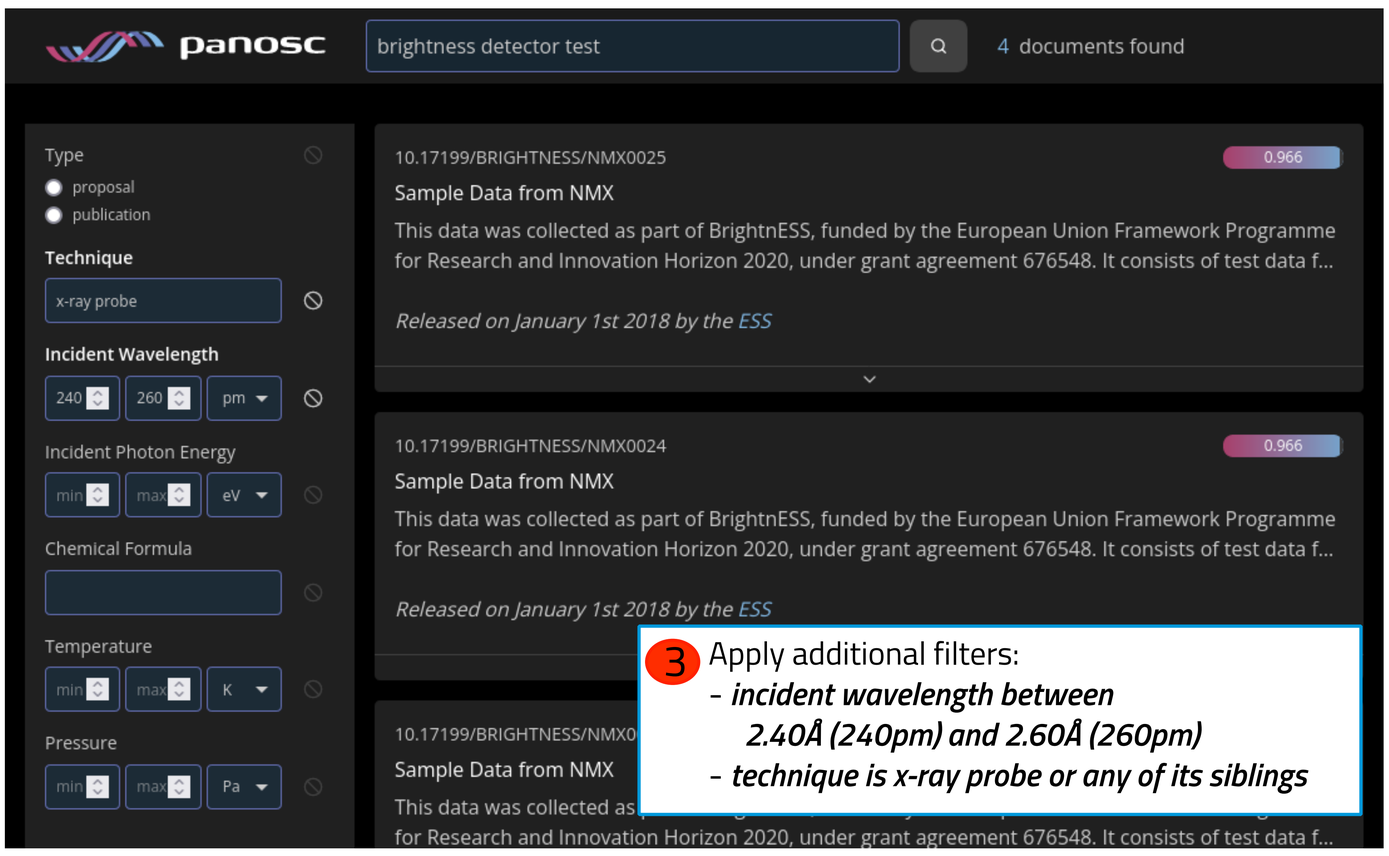
PaNOSC Data Portal and Federated Search provide a single tool to search public data stored in multiple data catalogues located a various European research facilities

Query

We would like to retrieve all the public data available through PaNOSC that are related to the "***brightness detector test***" where the data has been collected with an ***incident wavelength*** equal to ***2.5±0.1 Å*** and a "***x-ray probe***" technique.







Results returned

```
{
 "doi":"10.17199/BRIGHTNESS/NMX0025",
 "title":"Sample Data from NMX",
 "summary":"This data was collected as part of BrightnESS...",
 "releaseDate":"2018-01-01T00:00:00.000Z",
 "score":0.8201906539819677,
 "provider":"https://search.panosc.ess.eu/api",
 "datasets":[{
   "pid":"20.500.12269/BRIGHTNESS/NMX0025",
   "title":"Sample Data from NMX 25",
   "size":39540214280,
   "creationDate":"2016-12-09T19:20:50.000Z",
   "parameters":[
    {"name":"sample_chemical_formula","value":"V","unit":""},
    {
     "name":"incident_wavelength",
     "value":"241",
     "unit":"pm"
    },
    ...
   ]
 }, ... ]
}
```

Submitted query

```
{
  "include": [ {
    "relation": "datasets",
    "scope": {
      "include": [
        {
          "relation": "techniques",
          "scope": { "where": { "name": "x-ray probe" }}
        },
        {
          "relation": "parameters",
          "scope": { "where": { "and": [
             { "name": "incident_wavelength" },
             { "value": { "between": [ 240, 260 ] } },
             { "unit": "pm" }
          ] } }
        }
      ]
    }
  }],
  "query": "brightness detector test",
  "limit": 50
}
```

PaNOSC Data Portal
https://data.panosc.eu

PaNOSC Federated Search API
https://federated.panosc.ess.eu
Score locally, merge globally
Merge results from all facilities. Sort by score | Submitted Query

Other facilities with other data catalogues

PaNOSC Search API
SciCat Implementation
https://search.panosc.ess.eu
Merge catalogue results with scoring

```
{ "where" : {
  "pid": {
    "inq": [
      "http://purl.org/pan-science/PaNET/PaNET01012",
      "http://purl.org/pan-science/PaNET/PaNET01095",
      ...
} } } }
```

Technique expansion

```
{ "where" : {
  "name":"x-ray probe"
} }
```

Request documents according to filters on:
- technique
- parameters
Automatically convert units

Documents Scoring

```
{
 "query":"brightness detector test",
}
```

```
{ {
  "doi":"10.17199/BRIGHTNESS/NMX0025",
  "score" : 0.0786543
 }, ... }
```

SciCat Backend
https://scicat.ess.eu/api

PaNOSC Scoring System

Pan Ontologies
https://techniques.panosc.ess.eu

SciCat Facilities