



# OSCAR

Open Science Clusters' Action  
for Research & Society

## Funded Project

# MatScatNet

Principal Investigator: Maxwell W. Terban, Momentum Transfer

Project team members: Bernd Hinrichsen, Maxwell W. Terban, Didier Blanchard, Momentum Transfer Jakub Drnec, ESRF

Implemented by



# 1st Open Science Experimental Powder Diffraction Database

**OSCARS Funding:**

€ 250.000

**Project Start:**

[01 NOV. 2024]

**Project End:**

[31 OKT. 2026]

**Field: Materials Science**

momentum-transfer.com

**Principal Investigator:**Maxwell W. Terban,  
Momentum Transfer**Other Researchers involved:**Bernd Hinrichsen, Didier  
Blanchard (Momentum  
Transfer), Jakub Drnec (ESRF)

## Open Database of Experimental Powder Diffraction Data



## IMPACT

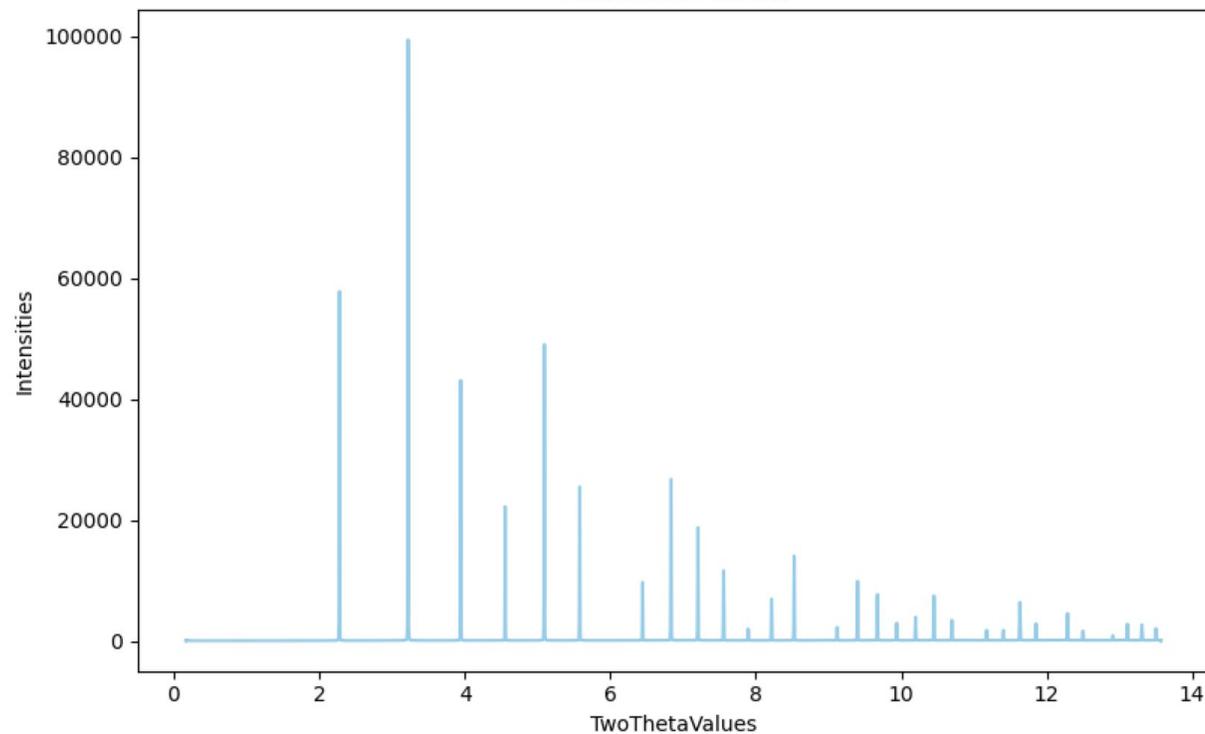
Enable easy open and free sample identification from powder diffraction data.

**Organisations involved:**

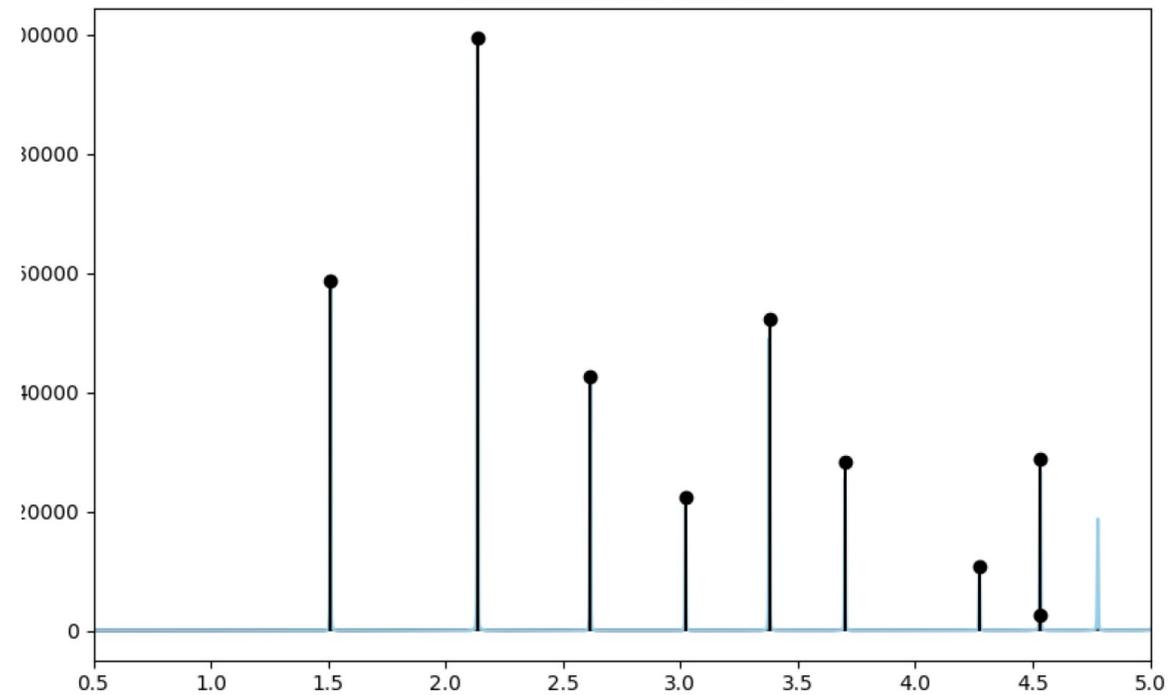
- Measure 1000's of powder samples from researchers around the world using our high-throughput setup developed with the ESRF
  - Build a database containing experimental data & valuable metadata
  - Make this DB available to researchers as an open-science tool
  - Create tools for searching and identifying similar materials to user uploaded data
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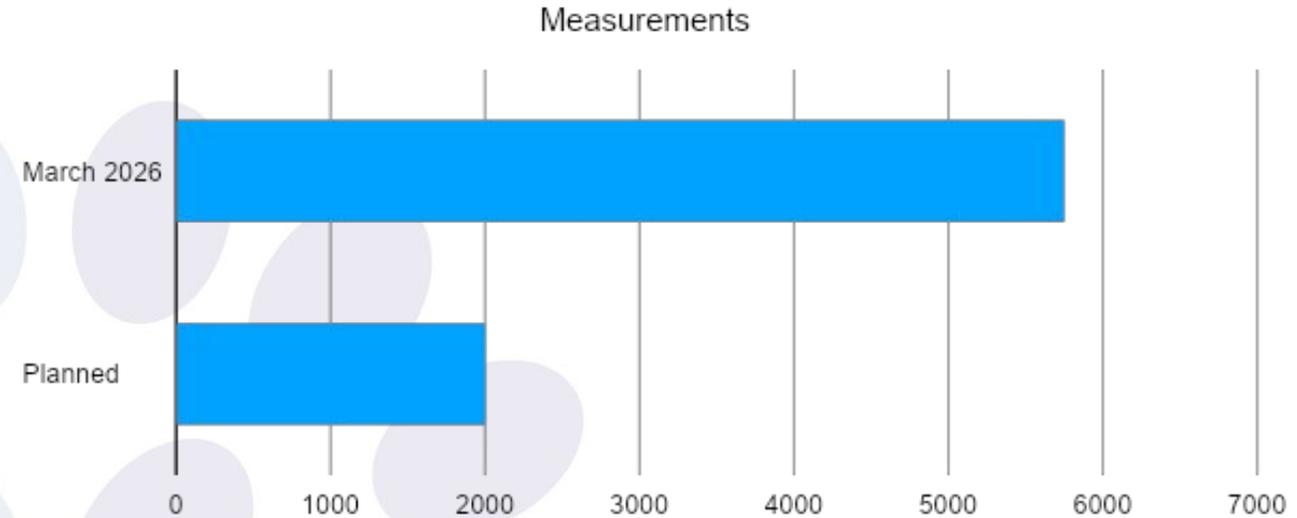
- Huge amount of powder diffraction data are collected each year
  - Reference databases are very expensive
  - Tools to identify materials are built into proprietary software
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Diffraction Pattern

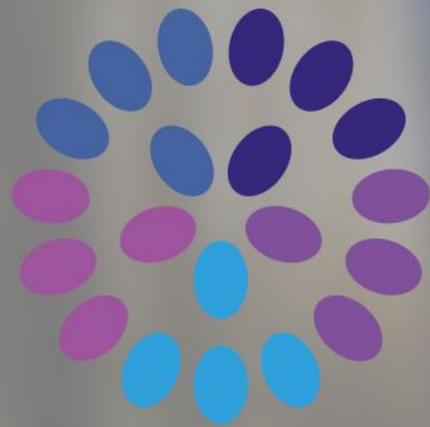


ID of best match 4077502





- Data collection very successful
  - Public beta of data matching tool released in February 2026
  - Public beta of DB searching interface planned for April 2026
  - ToDo: EOSC infrastructure connections
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OSCARS

Thank you