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DAPHNE4NFDI: Data from PHoton and Neutron Experiments for NFDI

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The photon and neutron science community encompasses users from a broad range of scientific disciplines. With the advent of high speed detectors and increasingly complex instrumentation, the user community faces a common need for high-level, rapid data analysis and the challenge of implementing research data management for increasingly large and complex datasets. The aim of DAPHNE4NFDI is to create a comprehensive infrastructure to process research data from large scale photon and neutron infrastructures according to the FAIR principles (Findable, Accessible, Interoperable, Repeatable).

DAPHNE4NFDI brings together users representing key scientific application domains with the large-scale research facilities in photon and neutron science in order to advance the state of data management in the community. Key tasks to be addressed within DAPHNE4NFDI are

- Improve metadata capture through consistent workflows supported by user-driven online logbooks that are linked to the data collection;
- Establishment of community repositories processed data, new reference databases and analysis code for published results, linked, where possible, to raw data sources, to sustainably improve access to research data; and
- Develop, curate and deploy user-developed analysis software including the interface for machine learning tools on facility computing infrastructure through common data analysis portals.

Financed through the Deutsche Forschungsgemeinschaft National Research Data Infrastructure programme, DAPHNE4NFDI aims to have impact across the wider European and international photon and neutron community.

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