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Good research needs good metadata –why we set out to collect, connect, and correct metadata for physics

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FAIR research data and the adoption of semantic technologies hold a great promise to improve the quality, openness, and efficiency of research in the physical sciences. However, the FAIR building we wish to constructs rests on foundations that are still shaky: Metadata often lack the quantity and quality to harness the full potential of advanced search functionalities, knowledge graphs, and AI applications for scientific libraries.

Physics, as compared to chemistry or the life sciences faces a particular challenge due to the lack of a widely accepted controlled vocabulary. The physics research community would benefit considerably if it were to agree on a sound terminological basis on top of which innovative semantic methods can be stacked. For instance, if (automated) annotation from a controlled vocabulary resulted in more and better fitting keyword, a scientist doing a literature search would enjoy a more accurate but also more concise list of references to follow up. Simultaneously, the author would gain in visibility of their work, especially outside their own field of research.

Hence, TIB –Leibniz Information Centre for Science and Technology, together with partners at Physikalisch-Technische Bundesanstalt (PTB) and INP –Leibniz Institute for Plasma Science and Technology are going to propose a "Fachinformationsdienst Physik", a specialised information service. This infrastructure supporting research aims to facilitate researchers to access specialised literature und research-specific information and to provide services based on high quality physics metadata. We are going to follow a holistic approach, taking into account all forms of media, including, but not limited to research data.

Our mission will be to collect, connect and correct (meaning improving and maintaining the quality) of metadata for physics. A centrepiece of our proposed activities is going to be awareness raising within the physics research community in order to contribute to the groundworks of FAIR physics. We envision the Fachinformationsdienst Physik to foster a sustained engagement of the relevant stakeholders, informing the subsequent development of metadata-driven research services tailored to cutting-edge research in physics.

Please assign your contribution to one of the following topics

Enabling and incentivising the research community

Please specify "other" (stakeholder)

In addition please add keywords.

metadata
physics
libraries
terminologies
research-supporting infrastructures

Please assign yourself (presenting author) to one of the stakeholders.

Data professionals who provide and maintain data infrastructure

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