

# FAIR data infrastructure for core-level spectroscopy

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To exploit data generated in the fields of condensed-matter physics and chemical physics of solids as well as catalysis research, a FAIR data infrastructure is necessary. FAIRmat's goal is to provide this infrastructure. FAIRmat integrates synthesis, experiment, theory, digital infrastructure and applications to pursue this goal. From an experimental point of view, the tasks include the generation of application definitions for the corresponding experimental techniques as well as generating parsers for different file formats. In addition, standardized workflows should be designed and the connection to electronic lab notebooks and data storage needs to be considered.

The current status and future plans within FAIRmat's task area B3 –core level spectroscopy –with X-ray photoelectron spectroscopy (XPS) as its core experimental technique will be presented. Additionally, the connection to the other FAIRmat areas, and to the RDM related efforts and projects at the MPI-CEC will be discussed.

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