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Applications of PaNET in Neutron Research

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In order to build a comprehensive understanding of all kinds of materials, the Photon and Neutron (PaN) community has been developing an increasing portfolio of experimental techniques (ET). These techniques share similarities including physical processes, experimental probes, functional dependencies, or purposes. This intricate web of techniques benefits from organisation into an ontology, known as the Photon and Neutron Experimental Technique (PaNET) ontology.

We aim to highlight the existing and potential applications of this ontology. One notable application is the development of a beamline finder, as demonstrated for the PETRA III synchrotron. This tool aids users in identifying beamlines that align with their specific requirements of their scientific questions. The ontology facilitates this process by providing detailed information about available methods and techniques.

The techniques listed in the ontology can be integrated into experimental datasets, thus enhancing the findability of datasets and improving data accessibility. Additionally, specifying the ET during a measurement can be used to trigger metadata schemas that are tailored to a specific technique. This ensures that the captured metadata is relevant and precise, enhancing the quality and utility of the data.

We present an overview of the current status of these activities, with ideas on how you can benefit from them and the opportunities for direct involvement.

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