

IAEA Training Workshop: Advanced Use of Neutron Imaging for Research and Applications: AUNIRA



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Neutron imaging principles

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This lecture will introduce the basic principles of imaging along the lines of the specific conditions for neutron imaging. The nature and consequences of neutron interaction with matter will be discussed in its relevance for providing contrast in imaging and information about the sample under investigation, and hence the application of neutron imaging in various fields. The ability to achieve spatial resolution will be introduced together with the technical implications in realizing a neutron imaging facility. This basis shall allow to dive into the foundation of more advanced methods from 3D imaging, including tomographic reconstruction basics, to a first look into more recent developments to exploit additional contrast mechanisms. This way the lecture shall provide a solid basis for the course and more specialized lectures in specific areas of neutron imaging.

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