

Neutron powder diffraction at instruments SPODI, ERWIN and FIREPOD

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In this contribution, the capabilities of the three powder diffractometers—SPODI, ERWIN, and FIREPOD—are presented in the context of potential studies on fusion-relevant materials. Neutron diffraction enables the determination of phase fractions in multiphase systems and allows for the refinement of structural parameters for each constituent phase. Furthermore, microstructural features can be identified and analyzed. Compared to X-ray diffraction, neutron diffraction offers advantages in the investigation of coarse-grained materials due to superior grain statistics.

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