

Neutron irradiated microstructure of FeCr alloys investigated by TEM

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Different parameters have been observed to influence the nature and evolution of the neutron radiation induced features, responsible of the mechanical behavior of FeCr alloys. In this work, the experimental conditions were selected to focus on the effect of composition and irradiation temperature. The study has been performed within the frame of collaborative European funded projects, where a combination of advanced characterization techniques is applied. The characterization of dislocation loops has been performed on the basis of Transmission Electron Microscopy (TEM), while the solute redistribution has been studied by Atom Probe Tomography (APT). The results, showing how the involved variables affect the neutron irradiated microstructure, will be presented and discussed.