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Radiation induced structural changes in Fe-Cr alloys studied by EXAFS

Friday, 16 September 2011 13:33 (2 minutes)

We investigate irradiation damage mechanisms and changes in microstructure upon ion-beam implantation of the model Fe_{1-x}Cr_x alloys, with x up to 20%. Fe⁺-beam implantation simulates the effect of neutron irradiation with respect to formation and evolution of atomic displacement cascades. The ion-irradiated samples are not activated and can be easily handled as non-radioactive specimens. We used EXAFS technique to investigate the changes in atomic structure leading to formation of displacement cascades which affect the fundamental mechanical properties of these materials. Additionally, TEM imaging of the post-irradiated specimens is used to determine the density and sizes of dislocation loops.

Please specify the session

Postersession (micro-XAS)

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Poster

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