

Radiation induced damage in nuclear materials studied with UED and modeling

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Experimental study of early damage in nuclear damage has been very challenging due to low quantity and small size of defects. Therefore, being able to reliably validate modelling techniques of primary damage in nuclear materials has not been possible. Recent, advances in UED experiments has made it possible to study the dynamics of the material due to laser excitation. By comparing the signals from damaged and undamaged material it could be possible to evaluate the types of defects and their concentrations experimentally. Moreover, UED experiments can be directly simulated with computer modelling and, therefore makes it possible to validate the models being used.

In this presentation we present the combined experimental and modelling study to assess the damage and its role on the materials response to laser excitation of pristine and He implanted sample.

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