

Heavy ion-induced damage and modifications of insulating materials

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On their way through matter, energetic heavy ions induce a trail of ionizations and excitations. The result of this interaction is the formation of ion tracks consisting of complex damage structures in the lattice (single defects and defect clusters) and irreversible physical, chemical and structural changes. This report gives a short review of the damage creation and the track morphology in various insulating materials. In addition, some selected examples for application of ion-induced modifications will be presented.