

Development of the space oriented vacancy – interstitial cluster model

Wednesday 2 December 2015 11:20 (20 minutes)

We report about the progress of study of the model of vacancy-interstitial defect cluster presented earlier at 26th Cern RD50 workshop. According to this model the defect cluster is realized as a confined inclusion of disordered vacancy and interstitial defects where the subregion of interstitials is shifted from the subregion of vacancies along the trajectory of incident high energy particle. Such a structure gives rise to the two regions of acceptor and donor states separated in space. As a consequence of free carriers localization in these states the defect cluster turns into a dipole like space charged object which affects the transport and recombination of the rest of the free carriers.

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Session Classification: Defect Characterization