

MODELING OF MICROSTRUCTURAL CHANGES  
IN IRRADIATED SYSTEMS USING THE PHASE  
FIELD CRYSTAL METHOD

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S u m m a r y

Microstructural changes in systems subjected to the ballistic flux action have been studied. The formation of a structure disorder under irradiation has been described using the phase field crystal method. It is found that, owing to a competition between the regular and stochastic components of the ballistic flux, spatial patterns with smeared atomic densities can be formed. The dynamics of defects during the recrystallization in such systems has been studied, and the dependence of the variation in the number of defects on the statistical properties of a ballistic flux has been analyzed. The spatial patterns formed under the action of such flux during the recrystallization are found to be stationary and resistant to low-intensity thermal fluctuations.