Molecular dynamics simulation of nanoindentation

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Abstract

Molecular dynamics simulations are used to investigate the nucleation and dynamics of dislocations during nanoindentation of a (111) FCC plane. The core structure around the dislocation is visualized by coloring the atoms with deviating coordination number and its Burgers vector is automatically determined. Discontinuities in the load-depth curves are related to the nucleation of edge dislocation dipoles (loading) and the annihilation of dislocations (unloading).

Beteiligte Forschungseinheiten

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