

Phase-field simulation of domain evolution in ferroelectric thin films with deadlayers

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Summary

Phase field simulation is an effective way to predict the domain evolution in ferroelectric materials. A phase field model is developed to investigate the domain structures and polarization switching in ferroelectric thin films with deadlayers. Simulation results show that the deadlayers as well as misfit strain have a significant influence on the domain structures and polarization switching in the ferroelectric thin films. It is found that the simulated switching electric field in ferroelectric thin films decreases with the thickness of the deadlayers increasing.

