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The morphological evolution and migration of inclusions in thin-film interconnects under electric loading YINFENG LI, Department of Engineering Mechanics, Shanghai Jiaotong University and Division of Engineering, Brown University, XI WANG, ZHONGHUA LI, Department of Engineering Mechanics, Shanghai Jiaotong University — The paper reports the result of an investigation into electromigration-driven morphological evolution of inclusions in finite scale thin-film interconnects using a phase field method. In examples, two types of inclusion defect are simulated and discussed. The results show that the morphological evolution and migration of inclusion is proportional to the electric field strength applied on thin-film interconnects. It is also seen from the result that the inclusion with anisotropic diffusion interface will move faster than one with isotropic interface under the identical electric field, and the one with anisotropic diffusion interface may evolves into an irregular shape with protuberance.

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