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Kinetic of phase transformation nucleated from grain boundaries JEAN-BERNARD MAILLET, BERTRAND ROUET-LEDUC, CHRISTOPHE DENOUAL, CEA DAM, CEA DAM TEAM — A model for phase transitions initiated at nucleation sites on grain boundaries is proposed and tested against numerical simulations: a mean field approach allows to explicitely consider the granular structure, yielding accurate predictions for a wide span of nucleation processes. The transition between heterogeneous (i.e. controled by the microstructure) and homogeneous behavior is predicted, which depends on the nucleation rate and the velocity of phase transformation.

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