

Vortrag

Dr. Ken Elder

Oakland University
Department of Physics
Rochester / USA

Modelling microstructure formation from atomic to mesoscopic scales

Abstract: Understanding the formation and characteristics of non-equilibrium structures has been greatly enhanced by the use of continuum or 'phase' field models. Such models typically describe phenomena on mesoscopic length and time scales. More recently, methods have been developed that incorporate microscopic details on diffusive time scales. Such approaches have the benefit of incorporating elastic and plastic deformations in a natural and simple fashion. In this talk I would like to discuss the connection of this 'phase-field crystal' approach with standard microscopic and mesoscopic methods. In addition several applications that are controlled by microscopic lengths, and elastic and plastic deformations will be presented, including mound formation in epitaxial growth and pre-melting near grain boundaries and dislocations.

Ort: IA 1/21 **Termin:** 22. Juli 2008 – 14.00 Uhr

gez. Prof. Dr.rer.nat. Steinbach

