

This work is based on Antti Pihlaja's thesis, *Modeling Grain Boundary Structures Using Energy Minimization*, 2000, supervised by R. Kohn at NYU.

- Introduction to the model: interfacial energy of a 2-dimensional thin film-substrate system
- Variational character of the problem
- Improving Leo & Hu's interfacial energy model

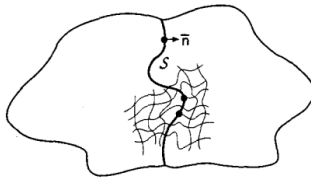


Figure: Interface S and lattices after deformation¹

- Cermelli & Gurtin's incoherency tensor
- Theorem: Energy scaling of the interface

¹Figure adapted from Cermelli & Gurtin, *On the kinematics of incoherent phase transitions*, Acta Metall. Mater., 1994.