

Plasticity as the Γ -limit of a Nonlinear Dislocation Energy with Mixed Growth

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- Plasticity describes deformation of materials undergoing non-reversible changes.
- At atomic level dislocations play key role in this effect.

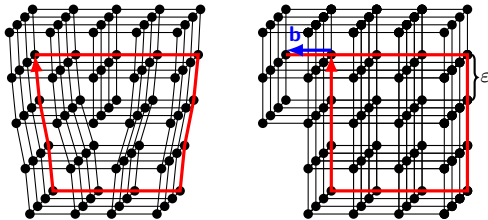


Figure : Left: the deformed crystal with singularity. Right: reference configuration and Burgers' vector b .

Main result:

Variational model for straight, parallel dislocations $\xrightarrow{\Gamma, \varepsilon \rightarrow 0}$ Macroscopic plasticity model.

Key words:

- Γ -convergence,
- Geometric Rigidity / Korn's inequality for fields with non-vanishing curl,
- Ball Constructions.