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Titolo	Modeling of Dislocation : Grain Boundary Interactions in Gradient Crystal Plasticity Theories
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Sommario/riassunto	A physically-based dislocation theory of plasticity is derived within an extended continuum mechanical context. Thermodynamically consistent flow rules at the grain boundaries are derived. With an analytical solution of a three-phase periodic laminate, dislocation pile-up at grain boundaries and dislocation transmission through the grain boundaries are investigated. For the finite element implementations, numerically efficient approaches are introduced based on accumulated field variables.