

1011-49-273

Margarida N Baía* (mbaia@math.ist.utl.pt), Instituto Superior Técnico, Departamento de Matemática, 1049-001 Lisboa, Portugal. *Variational multiscale problems and applications to thin films.*

The main objective of this work is to study the asymptotic behavior of two kinds of multiple scale problems by Γ -convergence: Relaxation problems involving families of multiple scale integral functionals, and $3D-2D$ reduction problems for heterogeneous thin domains with periodic microstructure. Periodicity, standard growth conditions and nonconvexity are assumed whereas a stronger uniform continuity with respect to the macroscopic variable, normally required in the existing literature, is avoided. (Received August 29, 2005)