Homogenization of a Non-Linear Problem with a Thermal Barrier

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Abstract : In this work, we consider the homogenization of a non-linear problem in periodic medium with two periodic connected media exchanging a heat flux throughout their common interface. The interfacial exchange coefficient λ is assumed to tend to zero or to infinity following a rate $\lambda = \lambda(\epsilon)$ when the size ϵ of the basic cell tends to zero. Three homogenized problems are determined according to some critical value depending of λ and ϵ . Our method is based on Γ -Convergence techniques.

Keywords : variational methods, epiconvergence, homogenization, convergence technique

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