

Homogenization of a Non-Linear Problem with a Thermal Barrier

Authors : Hassan Samadi, Mustapha El Jarroudi

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 $\lambda=\lambda(\varepsilon)$ 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

Conference Title : ICCM 2016 : International Conference on Composite Materials

Conference Location : London, United Kingdom

Conference Dates : January 18-19, 2016