# Determination of the closure of the set of elasticity functionals

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**Abstract**

We determine the closure for Mosco-convergence in $L^2(\Omega, \mathbb{R}^3)$ of the set of elasticity functionals. We prove that his closure coincides with the set of all non-negative lower-semicontinuous quadratic functionals which are objective, i.e. which vanish for rigid motions. The result is still valid if we consider only the set of isotropic elasticity functionals which have a prescribed Poisson coefficient. This shows that a very large family of materials can be reached when homogenizing a composite material with highly contrasted rigidity coefficients.

This is a joint work with Professor P. Seppecher, University of Toulon, France.