



UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE E INFORMATICHE

SEMINARIO DI ANALISI MATEMATICA



Marco Barchiesi (Università degli Studi di Trieste)

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Sala Riunioni e Seminari, Plesso di Matematica

A relaxation approach to minimizing the 3D Neo-Hookean energy in the critical case

I will discuss the existence of minimizers for the three-dimensional neo-Hookean energy in the critical case, corresponding to the Sobolev exponent $p=2$. In this regime, the standard coercivity of the energy functional fails to yield compactness in the natural function space, as demonstrated by a counterexample due to Conti and De Lellis. However, their example (almost) points toward a natural candidate for a relaxed energy functional. This perspective enables a reformulation of the lack-of-compactness issue as a regularity problem. I will provide a description for this relaxed energy and a Lavrentiev phenomenon related to the model.

Organizzatore: Filippo Cagnetti

