1057-74-194   **Roberto Paroni*** (`paroni@uniss.it`), Dipartimento di Architettura, Universita' di Sassari, 07041 Alghero, (SS), Italy. *A Variational Justification of Linear Elasticity with Residual Stress.*

The aim of this talk is to give a rigorous justification of the linear theory of elasticity with residual stress. Starting from the finite deformation theory of uniform hyperelastic bodies we show that the finite variational problem Gamma-converges, in the limit of vanishing loads, to the classical variational problem of linear elasticity with residual stress. Our result, in particular, implies that the (quasi) minimizing deformations of the finite variational problem converge, in the appropriate topology, to the unique solution of the linear problem obtained.

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