

Shell theories arising as low energy Γ -limit of 3d nonlinear elasticity

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Abstract. We discuss the limiting behavior (using the notion of Γ -limit) of the 3d nonlinear elasticity for thin shells around an arbitrary smooth 2d surface. In particular, under the assumption that the elastic energy of deformations scales like h^4 , h being the thickness of a shell, we derive a limiting theory which is a generalization of the von Kármán theory for plates.

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