

# A plate equation for elasticity with large deformations

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We present a model for large deformations of plates, involving non-linear elastic material behaviour. Unlike most models using the Kirchhoff hypothesis, changes in thickness and shear are feasible, thus the model does not limit to very thin plates. However, a limit process of vanishing thickness yields parallels to the Kirchhoff hypothesis. The model is applied to contact problems involving a penalty approach which can be interpreted to approximate the deformation energy of the obstacle.

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