ON THE EQUATIONS OF GEOMETRICALLY NONLINEAR ELASTIC PLATES WITH ROTATIONAL DEGREES OF FREEDOM[*]

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Abstract

We consider the general model of 6-parametric elastic plates, in which the rotation tensor field is an independent kinematic field. In this context we show the existence of global minimizers to the minimization problem of the total potential energy.

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keywords: elastic plates, geometrically non-linear plates, shells, existence of minimizers, Cosserat plate.

1   Introduction

The general non-linear theory of 6-parametric elastic shells (3 parameters for the translation and 3 parameters for the rotational degrees of freedom) has

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