

On Systems of Deformable Bodies with Internal Degrees of Freedom

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ABSTRACT

Equations of motion of homogeneously deformable body are derived and discussed. The internal motion is described with respect to some prescribed field of orthonormal frames. This field is a very effective tool to describe interactions between internal rotations and homogeneous deformations. Three physically realistic and integrable models in two dimensions are discussed on classical and quantum levels. It is natural to expect that classical and quantum systems on algebraic manifolds are somehow interesting, perhaps also from the point of view of integrability.