



## **THE TWO APPARENTLY DIFFERENT BUT HIDDENLY RELATED EULER ACHIEVEMENTS: RIGID BODY AND IDEAL FLUID. OUR UNIFYING GOING BETWEEN: AFFINELY-RIGID BODY AND AFFINE INVARIANCE IN PHYSICS\***

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**Abstract.** Reviewed are ideas underlying our concept of affinely-rigid body. We do this from the perspective of the Leonhard Euler two main achievements, known under his name: the mechanics of rigid body and the dynamics of incompressible ideal fluid. But we formulate the theory which is somehow placed between those two models. Our scheme is a finite-dimensional dynamical system, but admitting deformative degrees of freedom. We also stress the connection with the general idea of affine invariance in physics.

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**Keywords:** rigid body, incompressible ideal fluid, affine invariance, finite-dimensional dynamical systems, deformative degrees of freedom

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