

**PERMANENT ROTATIONS IN NONHOLONOMIC
MECHANICS. OMNIROTATIONAL ELLIPSOID**

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ABSTRACT. This paper is concerned with the study of permanent rotations of a rigid body rolling without slipping on a horizontal plane (i.e., the velocity of the point of contact of the ellipsoid with the plane is zero). A more detailed analysis is made of permanent rotations of the omnirotational ellipsoid whose characteristic feature is that permanent rotations are possible about any point of its surface.