

Physics of a spinning object cyclic inversion at an orbital flight

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Abstract

Space flights are going on with physical discoveries unknown to humanity. One of them was a spinning object cyclic inversion revealed on the MIR space station and classified in 1985. Later, the NASA International Space Station discovered the same effect and showed it to the entire world. This physical effect is an object of study studied by physicists and mathematicians. They developed only approximated and numerical models on the level of assumptions. The inversion of the spinning objects in the condition of free flight is the subject of gyroscope theory. The mass of the spinning object at the orbital flight generates the two systems of the kinetically interrelated inertial torques. The first system is the set of the eight inertial torques acting on the spinning object generated by the centrifugal, Coriolis forces, the change in the angular momentum, and kinetic interrelation of the angular velocities of the spinning object about axes of rotation. The second system is the inertial torques generated by the curvilinear motion of the object around the earth. The action of these two systems of the inertial torques on the spinning object manifests its cyclic inversions, which are the gyroscopic effects at an orbital flight and condition of the weightless. The theory of the gyroscopic effects describes the method of application of the system of the kinetically interrelated inertial torques, the physics of all gyroscopic effects, and mathematical models for the motions of any rotating objects at any condition of their functioning. We state and prove that Artificial Intelligence can help achieve better results in Cyber Security context.

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Biography

Dr. Ryspek Usubamatov studied Mechanical and Manufacturing Engineering at Bauman Moscow State Technical University, that graduated as a professional engineer in 1966 and received his Ph.D. in 1972. After several years of postdoctoral research, he obtained the degree of Dr. Tech. Sc. at the Kyrgyzstan Academy of Sciences.

He has published over 400 research manuscripts in reputed journals, 8 books, 30 brochures, and 60 patents of inventions. He published two fundamental works: Productivity Theory for Industrial Engineering, Taylor & Francis, 2018 and Theory of Gyroscopic Effects for Rotating Objects, Springer, 2020. Currently, he is a part-time Professor of Kyrgyz State Technical University, Kyrgyzstan, and Editorial Board Member of the seven international journals.