Correction of the first law of motion of Newtonian mechanics

Wei Fan（凡伟）
Science enthusiast　650000 Kunming Yunnan China

Summary: From the proposal of law of inertia to the present, we have never doubted its correctness. In fact, inertia exists objectively, while Galileo and Newton's definition of inertia is wrong. Therefore, I made a correction here.

Key words: inertia; the first law of motion of Newtonian mechanics; correction

Introduction:

In 1687, on the basis of the work of Descartes, Galileo and others, Newton wrote "The Mathematical Principles of Natural Philosophy" to get rid of the shackles of the old ideas and officially introduced the law of inertia as the first principle: all objects always maintain a uniform linear motion or quiescent state, unless an external force acting on it forces it to change this state. He proposed the idea of maintaining a uniform linear motion state and a stationary state as the intrinsic properties of an object, and the concept of an inertial frame of reference derived therefrom. In addition, Newton's first motion theorem is a kind of reasoning of Galileo's ideal bevel experiment. In real life, there is no experiment that can verify this reasoning. In other words, the first law of motion of Newtonian mechanics has never been experimentally verified and can never be verified by any experiment.

1: The first question about the first law of motion of Newtonian mechanics

We know that physics is an experiment-based discipline. If a reasoning has not been experimentally verified, it can only be regarded as a kind of conjecture; and if it is clear that it cannot be verified by any experiment, it cannot be called science. Therefore, the first law of Newtonian mechanics is not a scientific theory.

2: The second question about the first law of motion of Newtonian mechanics

In the first law of motion of Newtonian mechanics, Newton believes that all physics always maintain a uniform linear motion state or a stationary state, unless the external force acting on it forces it to change this state. This is actually a wrong view.

Because there is gravity as long as there is mass, any object will be subjected to gravity force during the movement, so that any object will be subjected to external force during the movement; and because the object has gravity consumption during the movement, the motion of the object requires kinetic energy to maintain, and does not move linearly at a constant speed.

E-mail:2291341425@qq.com

Therefore, an object that is not subjected to an external force does not exist, and an object that moves linearly at a constant speed does not exist, either.

For a scientific theory, if the premise of the proposed hypothesis is not established, such a hypothesis completely loses its physical meaning.

3: Correction of the first law of motion of Newtonian mechanics

Therefore, I am modifying the first law of motion of Newtonian mechanics as follows: due to the existence of gravity, the motion of the object requires kinetic energy to maintain. When the object is not subjected to external forces other than gravity, it will only remain relatively static and will not move linearly at a constant speed. At the same time, the inertial motion is a buffering process in which the external force consumes the kinetic energy of maintaining the motion of the object. For detailed certification process, please refer to the literature [1]

4: Discussion

Some people may question that the rotation and revolution of a star do not need kinetic energy to maintain, so your definition of inertia is wrong.

In fact, the dynamics of the rotation and revolution of the stars are derived from the perturbations of other surrounding stars. The center of gravity of the stars is disturbed to cause the stars to rotate. The orbital potential of the stars is disturbed by the perturbation to cause the stars to revolution, which can be referred to [1].

In addition, if you want to try to explain why there is no uniform linear motion, you need to explain the origin of motion first, which can be found in [1]. It can be proved in the literature that the origin of motion is an effect of the change of the gravitational potential of an object. If the gravitational position of the object is unchanged, the object will not move. Therefore, the object does not move linearly at the same equipotential surface. Therefore, in the Galileo ideal bevel experiment, even if there is no friction, the object will not move linearly at a constant speed (for example, there is no friction in outer space, and no star will move at a constant speed or in a straight line).

5: Summary

From the above derivation, we find that Galileo and Newton have fundamental errors in the definition of inertia, so I made a correction.

references

【1】The Origin of the Gravitational Force, Inertia and Kinematics of Comic Bodies viXra:1808.0147