

Long-Term Climate Changes and the Shape of Rotating Bodies



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Introduction

2024 and 2025 were successful years for me. In 2024, my final paper [1] on the New Astronomical Theory of Climate Change [2] that I created was published. As a result of the interaction of the Solar System bodies, the orbit and axis of the Earth change. This leads to a change in solar heat, i.e. insolation, which comes to different latitudes of the Earth. Therefore, at high latitudes in some epochs, the amount of heat in the summer decreases so much that the snow does not melt, and an ice sheet begins to form. Water accumulates in glaciers and the sea level drops. In other epochs at high latitudes, there is more heat in the summer than at the equator. All polar glaciers melt, the sea level rises and lowlands are flooded. These climate fluctuations occur with periods of tens and hundreds of thousands of years. The moments of their occurrence are precisely determined. In the paper [1], these insolation periods are compared with paleoclimate changes over 250 thousand years. They coincide. Paleoclimate changes occur in exact agreement with the nature and features of the insolation periods variations. For two centuries, researchers have consistently developed the Astronomical Theory of Climate Change. And each of them made his own contribution to it. A hundred years ago, M. Milankovitch created the first version of this theory. But insolation fluctuations in it did not coincide with paleoclimate changes.

Conclusion

This theory considered only the change in the Earth's orbit. In addition, I solved the problem of the evolution of the Earth's rotational motion (pp. 132 - 180 [3]). In this form, the New Theory completely explains paleoclimate fluctuations over the past tens of millions of years. Now we can say that the path to

understanding the cause of recurring ice ages, which began 200 years ago, has been completed, and the result has been obtained: these periods are caused by fluctuations in the parameters of the Earth's orbit and axis. In 2025, I completed my work on the shape of a rotating body and sent the paper "Mechanics of the Figure of a Rotating Celestial Body" to the journal. I worked on this them for 23 years. The problem of the Earth's figure was studied by all known mechanics, starting with H. Huygens and I. Newton, and they contributed to it. A. Clairaut did especially much in it. The figure of a rotating body was considered from the standpoint of hydrostatics. However, there are a number of assumptions here that can be dispensed with if we consider the problem from the standpoint of mechanics. I believe that I have made progress here. A number of my results coincide with the results obtained by other methods, for example, the distribution of density and pressure along the radius of the Earth. Therefore, I present these distributions for five planets of the Solar System. Saturn's satellite Iapetus has a ridge that encircles it along the equator. About ten hypotheses are put forward to explain it. The explanation of the cause of the ridge's appearance based on the results obtained in the paper seems to me to be the most plausible.

References

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3. Smulsky JJ (2023) New Understanding in Physics and Astronomy. India, UK: B P International pp: 209.



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