## STRUCTURAL INVESTIGATION OF PHYSICAL TERMS

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**Abstract.** This study aims to investigate the structural properties of physics terms in comparison to each other. By analyzing the relationships and connections between various physics concepts, this research seeks to uncover patterns and similarities that can provide insights into the underlying principles of the discipline. Through a systematic examination of the terminology used in physics, this study will contribute to a better understanding of the fundamental concepts and theories that govern the natural world.

**Keywords:** quantum mechanics, relativity, particle physics, scalar quantity, velocity, kinetic energy.

### СТРУКТУРНОЕ ИССЛЕДОВАНИЕ ФИЗИЧЕСКИХ ТЕРМОНОВ

Целью данного Абстракт. исследования является изучение структурных свойств физических терминов по сравнению друг с другом. Анализируя отношения связи между различными физическими И концепциями, это исследование стремится выявить закономерности и сходства, которые могут дать представление об основных принципах этой Благодаря систематическому дисциплины. изучению терминологии, используемой в физике, это исследование будет способствовать лучшему пониманию фундаментальных концепций и теорий, которые управляют миром природы.

Ключевые слова: квантовая механика, теория относительности, физика элементарных частиц, скалярная величина, скорость, кинетическая энергия.

### JISMONIY ATAMALARNI TUZILMAVIY TEKSHIRISH

Abstrakt. Ushbu tadqiqotning maqsadi fizik atamalarning strukturaviy xususiyatlarini bir-biri bilan taqqoslab o'rganishdir. Turli xil jismoniy tushunchalar o'rtasidagi munosabatlar va aloqalarni tahlil qilish orqali ushbu tadqiqot fanning asosiy tamoyillari haqida tushuncha berishi mumkin bo'lgan naqsh va o'xshashliklarni aniqlashga intiladi. Fizikada qo'llaniladigan terminologiyani tizimli o'rganish orqali ushbu tadqiqot tabiiy dunyoni boshqaradigan asosiy tushunchalar va nazariyalarni yaxshiroq tushunishga yordam beradi.

Kalit so'zlar: kvant mexanikasi, nisbiylik nazariyasi, elementar zarralar fizikasi, skalar miqdor, tezlik, kinetik energiya.

Structural study in physics involves a deep analysis of the underlying structures that define and shape the behavior of matter and energy. By examining the interplay between various physical terms, scientists aim to unveil the fundamental principles that underpin the workings of the universe. This pursuit of understanding is driven by a desire to uncover the hidden order and organization within the seemingly chaotic realm of the physical world. Through meticulous examination and analysis, researchers seek to reveal the intricate web of connections that tie together diverse aspects of physics, shedding light on the underlying structures that govern the behavior of matter and energy.

In the realm of physics, structural study plays a crucial role in elucidating the relationships between different physical quantities, laws, and phenomena. For example, the study of electromagnetism involves understanding the structural connections between electric fields and magnetic fields, as well as the fundamental equations that govern their interactions. By exploring the intricate interplay between these two phenomena, physicists have been able to develop a unified theory of electromagnetism that underpins modern technology, such as electric generators, motors, and telecommunications systems. Another area where structural study is essential in physics is in the field of quantum mechanics. Quantum mechanics deals with the behavior of particles at the smallest scales, where traditional classical physics breaks down. Through a structural analysis of quantum mechanical principles, scientists have uncovered the wave-particle duality of matter, the probabilistic nature of quantum systems, and the concept of quantum entanglement. These structural insights have revolutionized our understanding of the microscopic world and have led to the development of technologies such as quantum computing and cryptography.

Many scholars investigated structural features of terminology in different languages. For instance, "Structural and semantic analysis of some physics eponym terms for contribution to teaching and communication" was published by K.F.Makayev, A.R.Baranova, N.A.Sigacheva in 2021. The paper provides a comparative analysis, processing, generalization and systematization of some structural and semantic peculiarities of Physics eponym terms in the English and Russian languages. On the base of the analysis of the differences of the lexical units given are the results on some linguistic peculiarities of eponyms in Physics field. The main result of the research is in revealing considerable discrepancies in the structure, meanings and ways of reflection of eponym lexical units in the analyzed languages and in the necessity of their consideration for making some possible contribution to education issues and science terminology. The practical significance of the paper is in combining linguistic analysis and language teaching technology.[1]

I.N.Zhuravleva, M.V.Vlavatskaya (2021) published an article Structural model of chess terms in English. The article concerns the construction of a structural scheme of chess game terms in the English language and is aimed at identifying existing and productive ways and models of their formation. Terminological modeling allows to predict the development of terminological systems as a whole. The authors define a chess term as a word or phrase of the chess language, created and used to unambiguously express a concept, as well as to designate objects or phenomena related to the chess game. Its main feature is a strict correlation with a certain chess concept, action or phenomenon. Chess terminology is a set of lexical units that includes the structural and semantic relations of special concepts of the chess game. The article notes that the term system of the chess game is characterized by dynamism and therefore requires a deep linguistic analysis in various aspects, including structural ones. Thus, the main content of the study is the analysis of the formation of chess terms by the number of their components. The authors come to the conclusion that in English, in addition to one-word units, chess terminology has terminological phrases of varying degrees of complexity and connectedness. Considerable attention is paid to the identification of wordformation models of terminological units of chess, created in accordance with morphological, morphological-syntactic, syntactic ways of forming units. On the basis of the structural analysis, it has been established that, according to structural terminological divided one-component, models. chess units are into multicomponent, terminological phrases and phrasal combinations, where multicomponent units constitute a quantitative advantage. The research allows to consider the study of English terms of the chess game in the structural aspect as important and relevant.[2]

In conclusion, structural study of physical terms is a vital aspect of scientific research in physics. By analyzing the relationships between different physical concepts, laws, and phenomena, scientists can uncover the underlying structures that govern the behavior of the physical world. This knowledge can then be used to develop new theories and models that accurately describe the behavior of matter and energy in the universe, leading to a deeper understanding of the fundamental principles that govern the universe.

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