

Quantum of Time

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Abstract

The advent of quantum theory was possible due to the invention of Planck's postulate by Max Planck in the year of 1900. The concept of quantum in energy, angular momentum or charge has been developed by quantum theory. According to Mukhopadhyay as author of this research paper, the concept of quantum is also present in the concept of time producing past and future. The special ideas of this research paper have been developed in the National Institute of Technology Arunachal Pradesh, under the Ministry of Human Resource Development (Government of India) in the year of 2018.

Keywords: Quantum, time, first-past, first-future

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INTRODUCTION

Quantum theory and quantum mechanics are essential in nuclear physics and particle physics [1, 2]. Also, the principles of quantum mechanics are useful to theoretically and experimentally establish the facts of condensed matter physics, for example, the theories of semiconductor nanostructures [3–6]. Bhaumik as famous American-Indian physicist is a pioneer of deep-thinking on several mysteries of this universe, for example, creation of universe [7].

Albert Einstein introduced the special theory of relativity related to space-time [1, 8, 9]. Wudka has briefly mentioned the theories and notions of relativistic universe along with the general theory of relativity and special theory of relativity [8]. One important question in this context is as follows: “Is there any quantization in the concept of time?” In the next section, Mukhopadhyay has comprehensively expressed an idea about quantization in time producing the quantum of time. This work may be helpful to formulate many theories of pure physics in the regime of deep-thinking and thought-experiments.

CONCEPT OF QUANTIZATION IN TIME

In an earlier publication, Mukhopadhyay has established the Newton–Mukhopadhyay's law of motion as follows: “Every action has an

equal and opposite reaction”. [10]. Newton-Mukhopadhyay's law of motion is valid in space-time related to the special theory of relativity [10]. In the same publication, Mukhopadhyay has introduced the Mukhopadhyay's theory of concept and Mukhopadhyay's concept mechanics [10].

According to the concept theory, opposite-nature is a useful concept in this universe [10]. Opposite-nature is present in the concept of dimension. For example, infinite and infinitesimal are the two extreme conditions in time, length or charge showing the heaviness in quantity with the help of calculus as a branch of mathematics. In case of time, if the condition of infinitesimal time-duration ‘dt’ is considered, then the concept of the quantum of time can be introduced considering the time-instant of generation of universe along with the next time-instant after generation of universe. When opposite-nature is applied on the concept of time, then it produces past and future [10]. With the generation of universe, the concepts of time and opposite-nature arrived. After this generation of universe, the opposite-nature was applied on time producing first-past and first-future. So, the time-scale difference between the time-instant of universe generation and the time-instant producing first-past is one quantum of time. In this universe, the application of opposite-nature on time and the creation of first-past occurred

simultaneously. Therefore, there is a quantization in the concept of time.

CONCLUSIONS

In this research paper, Mukhopadhyay as author has invented the quantization in the concept of time producing a quantum of time. The special ideas of this research paper have been developed in the National Institute of Technology Arunachal Pradesh, under the Ministry of Human Resource Development (Government of India) in the year of 2018. This research paper will be useful for the progress of science towards the welfare of society.

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