

Time is quantized.

Friedhelm M. Jöge*

Abstract

The Equivalence of Energy and Time provides an argument for deciding whether time is quantized or not. This is one possible application of this Equivalence. The formula for the Equivalence of Energy and Time is:

$$E = (h/t_p^2) \cdot t \quad (1)$$

and was published [1] in the International Journal of Physics and Astronomy June 2022, Vol.1, No.1, pp1-2 .

The conclusion that the universe is an open system [2] also represents an application of the formula for the Equivalence of Energy and Time (1).

Keywords

Energy, Time, Equivalence, PLANCK quantum action, PLANCK time

Introduction

The question of how time is quantized has not yet been resolved. One possibility for clarification is to use formula (1) for the Equivalence of Energy and Time.

Justification for the quantized time

Since the energy is quantized, the time must also be quantized according to formula (1) because of the equivalence.

Conclusion

Therefore time is quantized.

Definition of symbols used in formula (1)

E = Energy

t = time

h = PLANCK quantum action

t_p = PLANCK time

Reference

[1] JÖGE, F.M.: Equivalence of Energy and Time
International Journal of Physics and Astronomy June 2022, Vol.10, No.1, pp.1-2

[2] JÖGE, F.M.: The Universe - an Open System. *International Journal of Physics and Astronomy*
December 2023, Volume 11, p.1

* Schulstrasse 57 · D-32812 Bad Pyrmont · Germany · email: f.joege@web.de