

Original Article



Equivalence of Energy and Time

Friedhelm M. Jöge*

Corresponding Author: Friedhelm M. Jöge

Abstract: A formula is developed that shows the equivalence of energy and time.

Keywords: Energy, time, PLANCK time, PLANCK quantum of action

Derivation of a formula that describes the equivalence of energy and time

In the International Journal of Physics and Astronomy, June 2019, Vol.7, No.1, pp1-7 [1] a formula for calculation dark energy was developed under the title „Calculation of Dark Energy and Dark Matter“. It is:

$$E_d = h \cdot t_u / t_p^2$$

This formula is now expanded below to

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

Starting from

$$E = h/t$$

Is obtained by substituting t_p for t

$$E_p = h/t_p$$

For the energy in the PLANCK time

For the energy per one second we get:

$$E_1 = h/t_p^2$$

And for energy in time t

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

This is the general formula for the equivalence of energy and time.

If you use the age of the universe for the time t , you get the amount of dark energy.

Definition of symbols used in formulas

E = energy

E_d = dark energy

t = time

t_u = age of the universe

t_p = PLANCK time

h = PLANCK quantum action

References

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* Schulstrasse 57, D-31812 Bad Pyrmont, Germany, E-Mail: f.joege@web.de