

# ENGINEERING, TECHNOLOGY AND APPLIED SCIENCE

November 13-14, 2023 | Bangkok, Thailand



## The Truth of Time and Gravity

**Ittipat Roopkom<sup>1</sup>, Wirote Jongchanachavawat<sup>1</sup>, Chermdhong Prattanaruk<sup>1</sup>, Kwanchai nanan<sup>1</sup>, Pichet Wisartpong<sup>2</sup>, Thawatchai Maytevarunyoo<sup>3</sup> and Paramote Wardkein<sup>4</sup>**

<sup>1</sup>Phetchaburi Rajabhat University, Phetchaburi 76000, Thailand.

<sup>2</sup>Mahanakorn University of Technology, Bangkok 10530, Thailand.

<sup>3</sup>Narasuan University, Phitsanulok 65000, Thailand.

<sup>4</sup>King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand.

This paper presents the hypothesis of the existence of field-particles of time (FPT) fused within spacetime. When FPT moves through matter, it influences the perception of time within the matter. The analysis reveals that the mass-energy equation can be reformulated in terms of potential energy (PE) and relativistic kinetic energy (KE), as represented by the equation  $E = (1 + \gamma^2 - 1)mc^2$ . FPT is also a crucial element that emerges in relativistic kinetic energy, denoted as  $KE = (\gamma - 1)mc^2$ , and this energy increases with the velocity of matter.

Accelerating matter to speed near the speed of light requires an increasingly large amount of relativistic energy, corresponding to the relativistic kinetic energy. Meanwhile, the energy of rest mass remains constant, expressed as  $PE = mc^2$ . The relativistic energy of FPT also directly influences the gravitational attraction of matter as it transfers energy through spacetime. The gravitational force follows an inverse square law, in accordance with Newton's law of gravity.

The analysis also shows that gravitational force varies with respect to matter's relative velocity, just as the universal gravitational constant varies with velocity. Furthermore, the equation relating time and the gravitational constant indicates that a higher intensity of the gravitational field results in a slower passage of time for matter, in accordance with the general theory of relativity. This study emphasises the presence of FPT in spacetime and its function in changing the experience of time inside matter.

Keywords: Field-particle of time (FPT), time, gravity.

### Biography:

Ittipat Roopkom received his B.Eng. and M.Eng. degrees from Mahanakorn University of Technology, Thailand, in 2002 and 2005, respectively. In 2009, he received his D.Eng. degree in electrical engineering from King Mongkut's Institute of Technology Ladkrabang, Thailand. In 2022, he became an assistant professor at the Faculty of Engineering and Industrial Technology, Phetchaburi Rajabhat University, Thailand. His research focuses on analog circuit design and wideband amplifiers.