物理論文の構造

論文タイトル ⟵ (重要!)

著者

著者の連絡先

Abstract (要旨) ⟵ (重要!)

main part
- Introduction (導入)
- 用いる実験や理論の説明
- 実験や理論の展開
- Summary (結果)
- Discussion (考察)

Acknowledgement (謝辞)

Appendix (補遺)

References (参考文献)

The title of our important discovery in physics

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(December 24, 2004)

ABSTRACT

The abstract of the paper is given here. Almost all of the readers first read here and decide whether one should read this paper or not. So, this part is very important.

1. Introduction

This part should explain why the theme of this paper is interesting. The author should give the motivation of the work, and brief explanation of what will be given in the paper[1)]. Many persons read only this part and the summary[2)].

2, 3, 4, and so on

5. Summary and discussions

The summary of the results is given here. What to be written here are the new discovery, the discussion by the authors and the remaining issues.

Acknowledgement

The authors would like to show their sincere thanks to Professor A. Einstein for enlightening discussions, to Professor S. Tomonaga for careful reading of the manuscript. This work is supported in part by the foundation of New Science and Technology.

Appendix

Technical details not given in the main part of the paper can be given here.

$$F^a_{\mu\nu} = \partial_\mu A_\nu - \partial_\nu A_\mu + g f^{abc} A^b_\mu A^c_\nu \ , \tag{1}$$

$$\Psi(x) = \tanh(kx)\cos(x^2 - x - 1) + \cdots \tag{2}$$

References

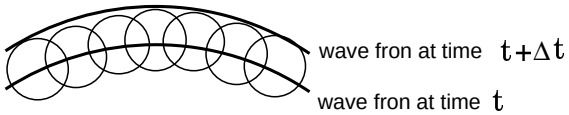
1) H. Yukawa, Phys. Rev. D45 (1970), 123.
2) P.A.M. Dirac and N. Bohr, Nature vol.21 (1933), 654.

今週の課題

以下の英文で述べられている内容の要約(abstract)を3±1行(1行につき英数字で60-80字)の英文で記せ

締切 1/31　　To: p-eng@k2.sci.toyama-u.ac.jp

In 1678 the great Dutch physicist Christian Huygens (1629-1695) wrote a treatise called *Traite de la Lumiere* on the wave theory of light, and in this work he stated that the wavefront of a propagating wave of light at any instant conforms to the envelope of spherical wavelets emanating from every point on the wavefront at the prior instant (with the understanding that the wavelets have the same speed as the overall wave). An illustration of this idea, now known as Huygens' Principle, is shown below.



From this simple principle Huygens was able to derive the laws of reflection and refraction, but the principle is deficient in that it fails to account for the directionality of the wave propagation in time, i.e., it doesn't explain why the wavefront at time $t+\Delta t$ in the above figure is the upper rather than the lower envelope of the secondary wavelets.

(http://www.mathpages.com/home/kmath242/kmath242.htm)