

## 科学英語(物理) 12/21 演習 解答例

### 1. 以下の英文を読み，次の問いに答えよ

Newton's second law of motion states that the acceleration of a body is proportional to the force on it. This is consistent with our experience that the harder we push on a moveable body, the quicker its speed changes. . . .

#### (a) 下線部を和訳せよ．

ニュートンの運動の第二法則は，物体の加速度が物体に加わる力に比例することを述べている．

得点率 81%

#### (b) “consistent with” を用いて英文を作れ．

**This experimental data are consistent with his theory.**

得点率 43%

(c) 以下の英語の語句を和文の物理用語で言い換えよ。

equation of motion 運動方程式 mass 質量

acceleration 加速, 加速度 velocity 速度

得点率 98%

2. 以下の英文が意味するものは和文の物理用語ではどう言われているか答えよ。

(a) A measure of the motion of a body equal to the product of its mass and velocity.

運動量 得点率 78%

(b) Physics that deals with the relationships and conversions between heat and other forms of energy.

熱力学 得点率 67%

(c) A collision of particles in which the total kinetic energy of the particles is conserved.

弾性衝突      得点率 20%

3. Put into English.

(a) 方向と大きさの両方を持つ量はベクトルである。

**A quantity that has both direction and magnitude is a vector.**

得点率 75%

(b) 分子が衝突することによってピストンに与えられる単位時間当たりの運動量が力に等しい。

**The force is equal to the momentum per a unit time delivered to the piston by the colliding molecules.**

得点率 57%

(c) ある速度をもつ分子を見いだす確率は，運動エネルギーを  $E$  として  $e^{-E/kT}$  のように変化する．

**The probability of finding molecules in a given velocity varies as  $e^{-E/kT}$ , where  $E$  is the kinetic energy.**

得点率 45%

4. 以下の英文の内容は物理学の何という法則を表わしているかを答えよ．

(コメント: ここは問題の出し方が良くなかった．しかし，ボイル，シャルルの法則と答えるのは間違い．英文の中身自体はボイル，シャルルの法則と無関係．)

The differential work  $W$  done on the gas in compressing it by moving the piston in a differential amount  $-dx$  would be the pressure  $P$  times the area  $A$ , times the distance, which is equal to minus the pressure times the change in the volume  $dV$ .

**熱力学第一法則 (の一部) , または  $dW = -pdV$  という式を表わす .**

得点率 23%

## 英文による手紙, メール

### 英文手紙の形式

Jan. 11, 2005  
(メールでは省略)

Professor A. Einstein  
Department of Physics  
Princeton University  
Princeton, NJ 08544, USA  
(メールでは省略)

Dear Professor Einstein:

本文

Sincerely yours,  
Truly yours, (少しカタめ)  
Best regards, (親しい相手)

自筆のサイン(手紙の場合)

Takeshi Kurimoto

メールの場合はシグニチュアをつけてよい

## 封筒の形式

Taro Toyama  
Faculty of Science  
TOYAMA UNIVERSITY  
Toyama, 930-855, Japan

Professor A. Einstein  
Department of Physics  
Princeton University  
Princeton, NJ 08544, USA

- 差し出し人の名前は省略することがある
- 宛先の国名にはアンダーラインをつける(ことが多い)
- 住所の書き方は日本と逆, 小さな所(研究室名や部局名)から大きな所(国名)へ

例) 論文の投稿 (手紙の場合)

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**TOYAMA UNIVERSITY**  
**Faculty of Science**  
**Toyama 930-8555, Japan**

Professor F. Abcde  
Editor of New Physics Journal P  
Department of Physics  
XYZ University  
XYZ, A-12345, England:

Dear Editor:

We are sending the following manuscript for publication at New Physics Journal P:

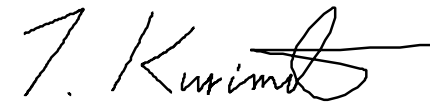
**title** : A new idea on super unified theory

**authors** : S. Tuvwx and T. Kurimoto

**contents** : 12 pages including 3 figures and 3 tables

Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Kurimoto', with a stylized flourish extending to the right.

T. Kurimoto

Faculty of Science,  
Toyama University  
Toyama 930-8555, Japan  
e-mail: [krmt@sci.toyama-u.ac.jp](mailto:krmt@sci.toyama-u.ac.jp)  
tel: +81-76-445-6588  
fax: +81-76-445-6549



## 例) 研究員の申し込み

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Professor F. Abcde  
Editor of New Physics Journal P  
Department of Physics  
XYZ University  
XYZ, A-12345, England:

Dear Professor Abcde:

I am writing to you asking if there is a possible position for a post doctoral research worker in your group for the academic year 2005-2006. If there is a postdoctoral position available, please let me know and inform me of any further instructions for application.

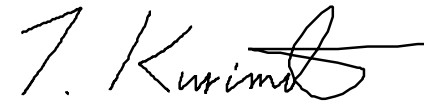
I have received Ph.D degree in this spring. My graduate studies were high-energy physics, in particular, quark physics phenomenology.

It would be great if I could take part in the research activities of your group.

For reference, my curriculum vitae, publication list and reserch interest are enclosed. I have requested Prof. A. B. Cde and Prof. F. Ghijk to send letters of recommendation in my behalf.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Kurimoto', with a long horizontal flourish extending to the right.

T. Kurimoto

Faculty of Science,  
Toyama University  
Toyama 930-8555, Japan  
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tel: +81-76-445-6588  
fax: +81-76-445-6549

## 例) Curriculum Vitae (履歴書)

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### CURRICULUM VITAE

Dareka Dokokano

#### PERSONAL DATA

NAME: Dareka Dokokano  
AGE AND SEX: 27, male  
PRESENT ADDRESS: Department of Physics,  
Toyama University,  
Toayma, 930-8555, Japan  
TEL: +81(764)445-6588  
FAX: +81(764)445-6549  
EMAIL: dareka@sci.toyama-u.ac.jp  
DATE OF BIRTH: July 28, 1975  
MARITAL STATUS: Single  
NATIONALITY: Japan  
CITIZENSHIP: Japan  
PLACE OF BIRTH: Osaka, Japan  
LANGUAGE ABILITIES: Japanese and English

#### EDUCATION

- (1) April 2000 - Mar 2003 Department of Physics,  
Graduate School of Sciences,  
Toyama University  
Awarded the degree of Ph.D
- (2) April 1998 - March 2000 Faculty of Science,  
Toayma University  
Awarded the degree of M.Sc. in Physics
- (3) April 1994 - March 1998 Faculty of Science,  
Toyama University  
Awarded the degree of B.Sc. in Physics

#### PROFESSIONAL EXPERIENCE

- (1) April 1999 - Present JSPS Fellowship for graduate studies

例) 会議への招待(メールの場合)

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Date: Tue, 24 Dec 2002 13:01:50 JST  
From: abcde@mail.phys.xyz.edu  
To: krmt@k2.sci.toyama-u.ac.jp  
Subject: invitation

Dear Dr. Takeshi Kurimoto:

We sincerely invite you to present a talk at the Second International Workshop on New physics, which will be held at XYZ University, during June 7-9, 2003. We shall support your airfare between Japan and XYZ, and local expense.

This is a regional workshop, supported by National Center for Theoretical Sciences, with the first one held at XYZ University last June. The purpose is to promote the collaboration and communication among researchers of this area in the field of new physics.

If you can attend this workshop, please give me the title of your talk, and the information for sending the invitation letter, such as the mailing address.

We look forward to seeing you.

Sincerely,

F. Abcde  
Dept. of Physics  
XYZ University  
XYZ, A12345, USA

例) 研究上の打ち合わせ等, 親しい相手へのメール

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Date: Tue, 12 Mar 2002 19:07:09 JST  
From: Tom Qwerty <qwerty@sci.xyz-u.edu.uk>  
Subject: Re: estimate higher order contributions  
To: krmt@sci.toyama-u.ac.jp

Hi! Kurimoto-san,

How are you these days ?

It was somehow excited one for us that the new exp. data showed so large asymmetry. I believe strongly that it will be changed in near future ;-). But if it will not be changed so much, we have to put some modification on our theory.

At the workshop, Asdf showed that exp. data prefers to large values of the parameter about 3.0 and large phases which is similar to our result.

For us, we have to do some progresses in higher order corrections ASAP.

With my best regards,

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Tom Qwerty <qwerty@sci.xyz-u.adu.uk>  
Department of Physics , Faculty of Science,  
XYZ Univ. XYZ 98765, UK

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## 今週の課題

自分が外国の大学院または企業に入るのに問い合わせをする英文のメールを提出．書くべき内容は

相手:住所は不要．会社名や大学院名，その担当者 (Einstein などの歴史上の著名人や架空の人を相手としてもよい)

自分の自己紹介: 簡単な学歴，今何を勉強しているか，(仮想の状況で書いてよい)

そこで何をやりたいか: 何に興味をもって，どういう仕事，研究がしたいのか

自己アピール: 自分が売り込めるところを遠慮せずに書く

自分の連絡先: 住所，メールアドレス等

他人と同じような回答や，安易な回答の場合 (このノートに出てきた文例そっくりな場合など) の点数はその程度に従って低くなる．

締切 2005 Jan.24

1/18(火)の授業は出張のため休講