These instructions are intended for users of a standard word processor. If you use $\mathrm{ET}_{\mathrm{E}} \mathrm{X}$ to prepare your manuscript, please refer to the template file attached to our $\mathrm{I}^{\mathrm{A}} \mathrm{EX}$ class file.

## 1 General Instructions

Paper size: A4 ( $21 \times 29 \mathrm{~cm}^{2}$ ) or US Letter ( $8.5 \times 11 \mathrm{in}$.)
Font: Times New Roman or Times-Roman (larger than 12 pt )
Line spacing: Larger than 1.5 times
Page layout:
title $\longrightarrow$ author(s) $\longrightarrow$ affiliation(s) $\longrightarrow$ one blank line $\longrightarrow$ abstract $\longrightarrow$ page break $\longrightarrow$ main text $\longrightarrow$ acknowledgment(s) $\longrightarrow$ (Appendix) $\longrightarrow$ page break $\longrightarrow$ reference list $\longrightarrow$ page break $\longrightarrow$ figure caption(s) $\longrightarrow$ page break $\longrightarrow$ table(s) $\longrightarrow$ page break $\longrightarrow$ figure(s)
Pagination: Page numbers should be consecutive throughout the manuscript including pages for tables and figures.

## 2 Estimation of the Length of the Paper

The length of the paper can be estimated using the following approximations. In particular, be sure to estimate the length of papers submitted as Rapid Communications, Brief Notes, and to APEX, which are limited to a maximum of three, two, and three printed pages, respectively.

## Rules

Text: One line equals approximately 8.3 words $\longrightarrow L_{1}$ (excluding from the title to abstract and figure captions) Equations: One equation equals approximately two lines. If the equation contains fractions, sums or integrals, etc., it is estimated to be three lines. $\longrightarrow L_{2}$
Tables: Number of rows plus two lines $\longrightarrow L_{3}$
Figures: Divide the height of each figure by 4 mm to obtain the number of lines and add two more lines $\longrightarrow$ $L_{4}$
Maximum size of Rapid Communications and APEX papers

$$
3 \text { pages } \fallingdotseq 326 \text { lines } \geq L_{1}+L_{2}+L_{3}+L_{4}
$$

Maximum size of Brief Notes

$$
2 \text { pages } \fallingdotseq 214 \text { lines } \geq L_{1}+L_{2}+L_{3}+L_{4}
$$

## 3 First Page (Title Page)

Title:

- Abbreviations other than those listed in $\$ 11$ are not acceptable in the title, since readers may not be familiar with such terms.
- Capitalize the initial letter of each word except articles, prepositions, and conjunctions.


## Authors' Names:

- The authors' first names should preferably be spelled out.
- If the authors are from different institutions, a superscipt Arabic numeral, i.e., $1,2, \ldots, n$, which corresponds to the appropriate listed institution(s), should follow each author's name, except author(s) belonging to the first-listed affiliation, which should be unnumbered.


## Authors' Affiliations:

- Use no abbreviations.
- Give adequate postal addresses including the ZIP or other postal code and the name of the country.
- If an author's present or permanent address differs from the given address, it should be given as a footnote beginning with "Present address:" or "On leave from," which is cited with a symbol (sequence: $*, \dagger, \ddagger, \mathbb{S}, \mathbb{\|}, \|, * *, \dagger \dagger, \neq$ ).
- The corresponding author's E-mail address can be given as a footnote beginning with "E-mail address:" (one address only).


## Abstract:

- No more than 150 words for Regular Papers and Review Papers.
- No more than 100 words for Rapid Communications, Brief Notes, and APEX papers.
- Figures, tables, and references should not be cited in the abstract.


## 4 Main Body of the Text

## Sections:

- Each section should be numbered consecutively with an Arabic numeral.


## Section: 1. Section Title

Subsection: 1.1 Subsection title
Subsubsection: 1.1.1 Subsubsection title

- Capitalize the initial letter of each word in section titles except articles, prepositions, and conjunctions.
- For subsections and subsubsections, capitalize only the first letter of the first word of the title.
- Up to three orders of sections (i.e., up to subsubsection) are allowed.
- There are no sections in Rapid Communications, Brief Notes, and APEX papers.

Paragraphs: Indent the beginning of each paragraph except for the first paragraph of the section/subsection/subsubsection.
Periods: Only one period is required when a sentence ends with an abbreviation.
Comments and Notes: Footnotes cannot be used in the main text. List comments and notes, if any, as references (refer to $\$ 9$ "Literature, Comments, and Notes").

## 5 Maths

- Equation editor must be used.
- Use the Symbol Font for Greek letters and other symbols.
- Each equation should end with a period or comma.
- Label equations with parenthesized numerals such as (1), (2) or (1.1), (1.2), ..., (2.1), (2.2).
- If an equation extends over more than one line, break the equation before an operator such that the operator is placed at the start of the new line.
- Braces, parentheses, etc., should be used in the following order: $\{[(\cdots)]\}$.


## 6 Units

### 6.1 Rules of units

- Use SI units.
- Present units in Roman type.
- Do not add " $s$ " to indicate plural of units.
- Do not confuse the symbol for the unit ( $\mathrm{s}, \mathrm{V}, \Omega$, etc.) and the name of the unit (second, volt, ohm, etc.).
- Arbitrary unit must be "arb. unit" (cf. "a.u." stands for atomic unit).


### 6.2 Examples of units

|  | SI unit | Permitted units |
| :--- | :--- | :--- |
| Length | m | $\AA$ |
| Mass | kg | $\mathrm{t}, \mathrm{u}$ |
| Time | s | $\mathrm{min}, \mathrm{h}, \mathrm{d}$ |
| Angle | $\mathrm{rad}, \mathrm{sr}$ | $\circ, \prime, \prime \prime$ |
| Thermodynamic temperature | K |  |
| Amount of substance | mol |  |
| Frequency | Hz |  |
|  | Continued on next page |  |


| Continued from previous page |  |  |
| :--- | :--- | :--- |
|  | SI unit | Permitted units |
| Force | N |  |
| Pressure | Pa | bar, atm, Torr |
| Energy | J | eV |
| Heat quantity | J | cal |
| Power | W |  |
| Electric current | A |  |
| Electric charge | C |  |
| Electric potential | V |  |
| Capacitance | F |  |
| Electric resistance | $\Omega$ |  |
| Conductance | S |  |
| Magnetic field | $\mathrm{A} / \mathrm{m})$ |  |
| Magnetic flux | Wb |  |
| Magnetic flux density | T |  |
| Inductance | H |  |
| Luminous intensity | cd |  |
| Luminous flux | lm |  |
| Illumination | lx |  |
| Volume | $\left(\mathrm{m}^{3}\right)$ | l or L |
| Viscosity | $\mathrm{Pa} \cdot \mathrm{s})$ |  |
| Effective cross section | $\left(\mathrm{m}^{2}\right)$ | b |
| Gravitational acceleration | $\left(\mathrm{m} / \mathrm{s}^{2}\right)$ | Gal |
| Radioactivity | Bq | Ci |
| Exposure | $(\mathrm{C} / \mathrm{kg})$ | R |
| Absorbed dose | Gy | rad |
| Dose equivalent | Sv |  |

- Use $\mathrm{cm}^{3}$ and $\mathrm{cm}^{2}$ instead of cc and sc cm , respectively.
- Use $\mu \mathrm{m}$ and nm instead of $\mu$ and $\mathrm{m} \mu$, respectively.


### 6.3 Products and quotients of units

- The product of two units must be indicated as follows. $\mathrm{m} \cdot \mathrm{N}$ or Nm
- The quotient of two units must be indicated as follows.
$\mathrm{m} \cdot \mathrm{s}^{-1}$ or $\mathrm{m} / \mathrm{s}$
- Do not use more than one slash unless units are parenthesized.
$\mathrm{m} / \mathrm{s}^{2}$ or $\mathrm{m} \cdot \mathrm{s}^{-2}$
$\mathrm{m} \cdot \mathrm{kg} /\left(\mathrm{s}^{3} \cdot \mathrm{~A}\right)$ or $\mathrm{m} \cdot \mathrm{kg} \cdot \mathrm{s}^{-3} \cdot \mathrm{~A}^{-1}$
$\mathrm{m} /(\mathrm{V} \cdot \mathrm{s})$ or $\mathrm{m} \cdot \mathrm{V}^{-1} \cdot \mathrm{~s}^{-1}$
[Note] Do not write as " $\mathrm{m} / \mathrm{s} / \mathrm{s}$," " $\mathrm{m} \cdot \mathrm{kg} / \mathrm{s}^{3} / \mathrm{A}$," or " $\mathrm{m} / \mathrm{V} \cdot \mathrm{s}$."


## 7 Acknowledgments

- Use the section title (without section number) "Acknowledgment(s)".
- Thanks for grants, equipment, samples, etc., should be expressed in this section.


## 8 Appendices

Headings: "Appendix" if there is only one appendix. "Appendix A", "Appendix B" ... if there is more than one appendix. "Appendix: Title" is also acceptable. Appendix titles should be capitalized as section titles (see $\$ 4$ ).
Equations: Number equations as (A•1), (A•2), (B•1), (B•2), ....
Figures: Label as Fig. A•1, Fig. A•2, Fig. B•1, Fig. B•2, ....
Tables: Label as Table A•I, Table A•II, Table B•I, Table B•II, ....
[Note] There are no appendices in Rapid Communications, Brief Notes, and APEX papers.

## 9 Literature, Comments, and Notes

### 9.1 Citations

- List all the literature, comments, notes, etc., cited in the main text, using consecutive numbers.
- Footnotes are not allowed in the main text.
- Place numbers with a closing parenthesis as a superscript to cite literature in the main text, e.g., ${ }^{1)}$, ${ }^{2,3)}$, 4-7,11), after any punctuation mark.
- Give only the family name(s) to cite the author(s) of literature in the main text. If there are two authors, give both authors' family names. If there are more than two authors, write only the first author's family name followed by "et al."

The phenomenon of spiking in solid state lasers is very well known. ${ }^{1-3)}$ It was first reported in the very early paper of Collins et al. ${ }^{2,4)}$ The detailed experimental setup is described in ref. 5.

### 9.2 Format of literature

- Each reference number should correspond to only one reference. Different papers by the same authors should be listed separately in the reference list under different numbers (excluding errata).
- The term "ibid." should not be used even if the same journal or book is cited with different page numbers.
- The term "et al." should not be used in the references. List all the authors (with the exception of software references with a very large number of authors, for which et al. may be used).


## A. Journals

1) T. Hashimoto, K. Fujito, K. Samonji, J. S. Speck, and S. Nakamura: Jpn. J. Appl. Phys. 44 (2005) 869.
2) R. H. Bruce: Solid State Technol. 48 [1] (2005) 5.
3) G. Asano, T. Oikawa, H. Funakubo, and K. Saito: Jpn. J. Appl. Phys. 42 (2003) L1083 [Errata 42 (2003) L1346].

- Sequence of items: author(s) $\rightarrow$ colon $(:) \rightarrow$ journal name $\rightarrow$ volume number (in boldface) $\rightarrow$ year (parenthesized) $\rightarrow$ initial page.
- Abbreviations of journal names are based on ISO (refer to $\$ 15$ ).
- No "p." is required with the initial page number.
- Provide the issue number (bracketed after the volume number) for journals that begin with page 1 in each issue.
- Errata should be listed under the same reference number.


## B. Non-English journals

4) H. Sakurai, K. Takada, and E. Takayama-Muromachi: Oyo Buturi 74 (2005) 22 [in Japanese].
5) Ju. V. Tsekhmistrenko: Sov. Phys. JETP 9 (1959) 1097.

- Write the original title of the journal in Roman letters.
- Write the name of the language at the end of the item, for example, [in Japanese] and [in Russian].
- Write the title and the English-translated journal if only the English-translated literature has been consulted.


## C. Books

6) S. M. Sze: Physics of Semiconductor Devices (Wiley, New York, 1981) 2nd ed., p. 55.
7) D. Edwards: in Handbook of Optical Constants of Solids, ed. E. Palik (Academic Press, New York, 1985) p. 547.
8) N. M. Amer and W. B. Jackson: in Semiconductors and Semimetals, ed. A. C. Beer (Academic Press, Orlando, 1984) Vol. 21, Part B, Chap. 3.

- Sequence of items: author(s) $\rightarrow$ colon $(:) \rightarrow$ title $\rightarrow$ editor(s) if any $\rightarrow$
name of publisher, city of publication, year of publication (parenthesized) $\rightarrow$ chapter or initial page.
- Abbreviations in the title are not acceptable.
- Publisher names can be shortened, for example, "Springer" and "Wiley."
- Only one city of publication should be given. If the book is published in the U.S.A., the state code, such as NJ, can be given after the city name.
- Providing the initial page is sufficient (if plural pages must be specified, write "pp." instead of "p."
- Write "in" before the title of the book when both the authors and the editors are provided.
- The title of the series should be provided if the book is part of a series.


## D. Non-English books

9) T. Takenouchi: Handotai (Semiconductors) (Shokabo, Tokyo, 1964) p. 83 [in Japanese].

- Write the original title of the book in Roman letters, followed by the English-translated title in parentheses.
- Write the name of the language at the end of the item, for example, [in Japanese].
- Write the English-translated title only if the English-translated book has been consulted.


## E. Preprints

10) Y. Nakai, S. Kitagawa, K. Ishida, Y. Kamihara, M. Hirano, and H. Hosono: arXiv:0810.3569.

- The year of publication is not necessary here.


## F. Proceedings and abstracts

11) A. Narazaki, J. Maruyama, T. Kayumi, H. Hamachi, J. Moritani, and S. Hine: Proc. Int. Symp. Power Semiconductor Devices and ICs, 2000, p. 377.
12) M. Koyama, A. Kaneko, T. Ino, M. Koike, and Y. Kamata: IEDM Tech. Dig., 2002, p. 849.
13) K. Kita, Y. Yamamoto, K. Kyuno, and A. Toriumi: Ext. Abstr. (52nd Spring Meet., 2005); Japan Society of Applied Physics and Related Societies, 30p-ZB-7 [in Japanese].
14) M. S. Joo, B. J. Cho, D. Z. Chi, N. Balasubramanian, and D.-L. Kwong: Ext. Abstr. Solid State Devices and Materials, 2004, p. 202.
15) T. Wada, T. Negami, and M. Nishitani: Proc. 9th Int. Conf. Ternary and Multinary Compounds, Yokohama, 1993, Jpn. J. Appl. Phys. 32 (1993) Suppl. 32-3, p. 41.

- Do not italicize conference names.
- Use abbreviations for "Proceedings," "Symposium," "International," etc.
- If the proceedings is published as a supplement to a journal, also provide the title of the journal. In this case, the name of the proceedings should be italicized.
- Some proceedings, such as Proc. SPIE, are written as journal references.


## G. Presentations

16) K. K. Bhuwalka, M. Born, S. Sedlmaier, J. Schulze, and I. Eisele: presented at ULIS6, 6th Int. Conf. Ultimate Integration of Silicon, 2005.

- Write "presented at" before the name of the conference.


## H. Technical reports

17) B. W. Braams: Natl. Bur. Stand. Tech. Note 724 (1972).
18) K. Hoh and Y. Yasuda: IEICE Tech. Rep. ED93-89 (1993) [in Japanese].

## I. Patents

19) Y. Takahashi and M. Nawa: Japan Patent 652696 (1971).
20) A. C. Smith: U.S. Patent 3390940 (1988).

## J. Unpublished works

21) N. Kunitomi and M. Kaneko: private communication.
22) M. Saito: in preparation for publication.

## K. Papers in review

23) A. Tonegawa and S. Hasegawa: submitted to Jpn. J. Appl. Phys.

## L. Accepted papers

24) S. Nakamura and J. S. Speck: to be published in Jpn. J. Appl. Phys.
25) Z. Shiu, Z. Hao, and J. Ni: to be published in Thin Solid Films [DOI: 10.1016/j.tsf.2008.09.1xx].

## M. Theses

26) K. Aoki: Dr. Thesis, Faculty of Science, University of Tokyo, Tokyo (1988).

## 10 Expressions for Items Cited in Text

|  | Section | Equation | Reference | Table | Figure |
| :--- | :---: | :---: | :---: | :---: | :---: |
| At the beginning of a <br> sentence | Section 1 | Equation (1) | Reference 1 | Table I | Figure 1 |
| Within a sentence | $\$ 1$ <br> $\$ 2$ and $\$ 3$ | eq. (1) <br> eqs. (2) and (3) | ref. 1 <br> refs. 2 and 3 | Table I <br> Tables II and III | Fig. 1, Figs. 2(a) and 2(b) <br> Figs. 3-6 |

## 11 Abbreviations and Acronyms

The following abbreviations and acronyms can be used without definition in the abstract and main text.

| ac (AC) | alternating current | ESR | electron spin resonance |
| :--- | :--- | :--- | :--- |
| dc (DC) | direct current | IR | infrared |
| bcc | body-centered cubic | UV | ultraviolet |
| fcc | face-centered cubic | FM | frequency modulation |
| hcp | hexagonal close-packed | AM | amplitude modulation |
| cw | continuous wave | rf (RF) | radio frequency |
| emf | electromotive force | IC | integrated circuit |
| rms | root-mean-square | LSI | large scale integration <br> (or large scale integrated circuit) |
| NMR | nuclear magnetic resonance | DNA | deoxyribonucleic acid |

Abbreviations and acronyms other than those listed above should be defined fully the first time they appear in both the abstract and main text.

Metal organic chemical vapor deposition (MOCVD) is one of the most important epitaxial growth techniques for compound semiconductors ...

## 12 Tables

## Paper:

- Use the same size of paper as for the main text.
- Print each table separately.
- Provide after the list of figure captions.

Numbering: Number tables with Roman numerals, such as Table I, Table II, ....

## Captions:

- Type each caption above each table (listing table captions on a separate page is not required).
- Begin with a capital and end with a period, as for a sentence.
- Capitalize only the first letter of the first word of column titles.

Table I. Fermi energy and carrier concentration for each sample.

| Sample number | Substrate temperature <br> $\left({ }^{\circ} \mathrm{C}\right)$ | Fermi level <br> $\eta_{\mathrm{F}}(\mathrm{eV})$ | Carrier concentration <br> $n\left(10^{20} \mathrm{~cm}^{-3}\right)$ |
| :---: | :---: | :---: | :---: |
| $560-2$ | 520 | 0.270 | 5.67 |
| $\vdots$ | $\vdots$ | $\vdots$ | $\vdots$ |

## 13 Figures

Figures must be complete so that no editing will be required.

### 13.1 General notes

## Paper:

- Use the same size of paper as for the main text.
- Print each figure separately.


## Numbering:

- Number each figure consecutively in Arabic numerals, such as Fig. 1, Fig. 2, ....
- Label related figures by lower-case letters in parentheses, such as (a), (b), (c), ....


## Captions:

- List captions on a separate sheet.
- Do not separate captions even for multiple related figures such as (a), (b), ....
- The list of figure captions should be provided after the reference list.


## Color printing:

- If color printing is required, write "Color print" in the margin of the sheet (except for APEX papers).
- In the figure captions, the phrase "(Color)" should follow the figure number and precede the caption (except for APEX papers).
- There is an additional fee for color printing with the exception of APEX papers.

Color online: Figures with color will be provided only in the online version (NO extra charge). Authors who request this service should note the following:

1. The online and printed versions of the figure files and captions should be the same.
2. It is the author's responsibility to prepare clear and appropriate figures, text references, and captions for both the online and printed versions. For example, light colors should be avoided since they are not clearly visible in the black-and-white printed edition.
3. In the figure captions, the phrase "(Color online)" should follow the figure number and precede the caption as a note for readers of the printed version. [For example, Fig. 1. (Color online) Pressure dependence of Hall coefficient.]
4. Reprints are printed with the same color preference as the printed version.

### 13.2 Other notes

Font:

- Select a standard font such as Times New Roman, Times-Roman, Arial, or Helvetica.
- Consider the font size because most figures will be reduced in size when printed.

Units:

- Select standard units (refer to $\$ 6$ ).
- Units should be parenthesized after the label on the axis. A slash is also acceptable.
- Expressions such as $\varnothing$ and 1.5 E 16 should be 0 and $1.5 \times 10^{16}$, respectively, if possible.


## 14 Electronic Figure Files

### 14.1 Recommended formats

EPS: Particularly for line drawings. EPS files made using conversion software are unacceptable. WMF: Particularly for line drawings. Files of most Windows applications can be saved as WMF.
PDF: Do not downsample or compress.
TIFF: Photos only. Resolution should be higher than 300 dpi. Line drawings are unacceptable.
JPEG: Same as TIFF.

### 14.2 Application files

The following Microsoft application files are acceptable.
PowerPoint: Prepare one figure as one slide in one PPT file.
Word: Place one figure on one page in one DOC file.
Excel: Prepare one figure as one file. Printed and on-screen sizes sometimes differ. In such cases, the on-screen size will be chosen.

### 14.3 Other notes

Size: Prepare each figure in the actual size. Enlarge for submission if necessary.
Font:

- Select a standard font such as Times New Roman, Times-Roman, Arial, or Helvetica.
- Do not use two-byte codes such as Chinese and Korean fonts.
- Use the Symbol Font for Greek letters and symbols such as ${ }^{\circ}$.

Line width: Lines should be thicker than 0.25 pt in actual size.
Other: Files scanned by the author are unacceptable.

## 15 Abbreviations of Journal Titles

Acc. Chem. Res.
Acta Crystallogr.
Acta Crystallogr., Sect. A
Acta Metall.
Acta Phys.
Acta Phys. Pol.
Acoust. Sci. Technol.
Acustica
Adv. Appl. Mech.
Adv. At. Mol. Opt. Phys.
Adv. Chem. Phys.
Adv. Colloid Interface Sci.
Adv. Mater.
Adv. Phys.
Adv. Quantum Chem.
AIAA J.
AIChE J.
AIP Conf. Proc.
Akust. Zh.
Am. J. Phys.
Anal. Chem.
Angew. Chem., Int. Ed.
Ann. Chim. Phys.
Ann. Geophys.
Ann. Fluid Dyn.
Ann. Math.
Ann. Phys. (Leipzig)
Ann. Phys. (N.Y.)
Ann. Phys. (Paris)
Annu. Rev. Nucl. Sci.
Appl. Catal. A
Appl. Opt.
Appl. Phys. A
Appl. Phys. Express
Appl. Phys. Lett.
Appl. Spectrosc.
Appl. Supercond.
Appl. Surf. Phys.
Appl. Surf. Sci.
Astron. J.
Astrophys. J.
At. Data Nucl. Data Tables
At. Energ.
Aust. J. Phys.
Bell Syst. Tech. J.
Ber. Bunsen-Ges. Phys. Chem.
Biochemistry
Biometrika
Biophys. J.
Br. J. Appl. Phys.
Bull. Am. Phys. Soc.
Bull. Chem. Soc. Jpn.
Butsuri
C. R. Acad. Sci.
C. R. Acad. Sci., Ser. A

Can. J. Phys.
Catal. Today
ChemPhysChem
Chem. Commun
Chem.—Asian J.
Chem.-Eur. J.

Chem. Lett.
Chem. Phys.
Chem. Phys. Lett.
Chem. Rev.
Chin. Phys.
Chin. Phys. Lett.
Commun. Math. Phys.
Commun. Pure Appl. Phys.
Comput. Mater. Sci.
Comput. Phys.
Cryogenics
Curr. Appl. Phys.
Czech. J. Phys.
Denki Gakkai Ronbunshi A
Denshi Joho Tsushin Gakkai Ronbunshi A
Diamond Relat. Mater.
Discuss. Faraday Soc.
Dokl. Akad. Nauk SSSR
ECS Trans.
Electrochem. Solid-State Lett.
Electron. Lett.
Eur. J. Phys.
Eur. Phys. J. A
Eur. Phys. J.: Appl. Phys.
Eur. Polym. J.
Europhys. Lett.
Ferroelectrics
Fiz. Tverd. Tela
Fortschr. Phys.
Geochim. Cosmochim. Acta
Geophys. Res. Lett.
Helv. Chim. Acta
Helv. Phys. Acta
Hyomen Kagaku
Hyperfine Interactions
IBM J. Res. Dev.
IEE Proc.-Circuits Devices Syst.
IEE Proc.-Optoelectron.
IEE Proc.-Sci. Meas. Technol.
IEEE Electron Device Lett.
IEEE J. Quantum Electron.
IEEE J. Sel. Top. Quantum Electron.
IEEE J. Solid-State Circuits
IEEE Photonics Technol. Lett.
IEEE Trans. Antennas Propag.
IEEE Trans. Electron Devices
IEEE Trans. Inf. Theory
IEEE Trans. Instrum. Meas.
IEEE Trans. Magn.
IEEE Trans. Microwave Theory Tech.
IEEE Trans. Nucl. Sci.
IEEE Trans. Plasma. Sci.
IEEE Trans. Sonics Ultrason.
IEEE Trans. Ultrason.
Ferroelectr. Freq. Control
IEEJ Trans. Electr. Electron. Eng.
IEEJ Trans. Fundam. Mater.
IEICE Electron. Express

IEICE Trans. Electron.
IET Circuits Devices Syst.
IET Optelectron.
IET Sci. Meas. Technol.
Infrared Phys.
Inorg. Chem.
Int. J. Mass Spectrom. Ion Phys.
Int. J. Mod. Phys. A
Int. J. Quantum Chem.
Integrated Ferroelectr.
Izv. Akad. Nauk SSSR, Ser. Fiz.
J. Acoust. Soc. Am.
J. Adv. Mech. Des. Syst. Manuf.
J. Alloys Compd.
J. Am. Ceram. Soc.
J. Am. Chem. Soc.
J. Appl. Crystallogr.
J. Appl. Phys.
J. Biomech. Sci. Eng.
J. Br. Nucl. Energy Soc.
J. Catal.
J. Ceram. Soc. Jpn.
J. Chem. Phys.
J. Chem. Soc.
J. Chem. Soc., Chem. Commun.
J. Chem. Soc., Faraday Trans.
J. Chim. Phys. Phys.-Chim. Biol.
J. Comput. Sci. Technol.
J. Cryst. Growth
J. Disp. Technol.
J. Electrochem. Soc.
J. Electron. Mater.
J. Electron Spectrosc. Relat. Phenom.
J. Environ. Eng.
J. Eur. Ceram. Soc.
J. Fluid Mech.
J. Fluid Sci. Technol.
J. Korean Phys. Soc.
J. Less-Common Met.
J. Lightwave Technol.
J. Low Temp. Phys.
J. Lumin.
J. Magn. Magn. Mater.
J. Mater. Sci.
J. Mater. Sci.: Mater. Electron.
J. Mater. Res.
J. Math. Phys. (Cambridge, Mass.)
J. Math. Phys. (N.Y.)
J. Mech. Syst. Transp. Logist.
J. Mod. Phys.
J. Mol. Spectrosc.
J. Mol. Struct.: THEOCHEM
J. Non-Cryst. Solids
J. Nucl. Energy
J. Nucl. Energy, Part A
J. Nucl. Mater.
J. Nucl. Sci. Technol.
J. Opt. A
J. Opt. Soc. Am. A
J. Photochem. Photobiol. A
J. Photopolym. Sci. Technol.
J. Phys. A
J. Phys. (Paris)
J. Phys. Colloq.
J. Phys. I
J. Phys. Chem.
J. Phys. Chem. Ref. Data
J. Phys. Chem. Solids
J. Phys.: Condens. Matter
J. Phys. Soc. Jpn.
J. Plasma Phys.
J. Polym. Sci.
J. Polym. Sci., Polym. Lett. Ed.
J. Polym. Sci., Polym. Phys. Ed.
J. Polym. Sci., Part A
J. Power Energy Syst.
J. Quant. Spectrosc. Radiat. Transfer
J. Res. Natl. Bur. Stand.
J. Res. Natl. Bur. Stand., Sect. A
J. Rheol.
J. Soc. Inf. Disp.
J. Solid Mech. Mater. Eng.
J. Solid State. Chem.
J. Sound Vib.
J. Space Eng.
J. Stat. Phys.
J. Syst. Des. Dyn.
J. Therm. Sci. Technol.
J. Vac. Sci. Technol.
J. Vac. Sci. Technol. A
J. Vac. Soc. Jpn.

JETP Lett.
Jpn. J. Appl. Phys.
K. Dan. Vidensk. Vidensk. Selsk.

Mat.-Fys. Medd.
Kotai Butsuri
Kristallografia
Langmuir
Liq. Cryst.
Low Temp. Phys.
Mater. Res. Bull.
Mater. Res. Soc. Symp. Proc.
Mater. Sci. Eng. A
Mater. Trans.
Mater. Trans., JIM
Microelectron. Eng.
Microelectron. J.
Microelectron. Reliab.
Mol. Cryst. Liq. Cryst.
Mol. Phys.
MRS Bull.
Nano Lett.
Nanotechnology
Nature

Nat. Mater.
Nat. Photonics
Nat. Phys.
New J. Phys.
Nihon Kikai Gakkai Ronbunshu A
Nonlinearity
Nucl. Eng. Des.
Nucl. Fusion
Nucl. Instrum. Methods
Nucl. Instrum. Methods Phys.
Res., Sect. A
Nucl. Phys.
Nucl. Phys. A
Nuovo Cimento
Nuovo Cimento A
Opt. Acta
Opt. Commun.
Opt. Eng.
Opt. Express
Opt. Lett.
Opt. Rev.
Opt. Spectrosc.
Optik
Opto-Electron. Rev.
Oyo Buturi
Philips Res. Rep.
Philos. Mag.
Philos. Mag. A
Philos. Trans. R. Soc. London, Ser. A
Phys. Chem.
Phys. Chem. Chem. Phys.
Phys. Fluids
Phys. Lett.
Phys. Lett. A
Phys. Met. Metall.
Phys. Plasmas
Phys. Rev.
Phys. Rev. A
Phys. Rev. Lett.
Phys. Rev. ST Accel. Beams
Phys. Scr.
Phys. Semicond.
Phys. Status Solidi
Phys. Status Solidi A
Phys. Status Solidi: Rapid Res. Lett.
Phys. Today
Physica
Physica A
Physics (N.Y.)
Plasma Phys. Control. Fusion
Plasma Sci. Technol.
Polymer
Polym. J.
Proc. IEE

Proc. IEEE
Proc. IRE
Proc. Natl. Acad. Sci. U.S.A.
Proc. Phys. Soc., Sect. A
Proc. Phys. Soc. London
Proc. R. Soc. A
Proc. R. Soc. London
Proc. R. Soc. London, Ser. A
Proc. SPIE
Prog. Photovoltaics
Prog. Theor. Phys.
Radiat. Eff.
Rep. Prog. Phys.
Rev. Mod. Phys.
Rev. Sci. Instrum.
Sci. Am.
Science
Semicond. Sci. Technol.
Sens. Actuators
Sens. Actuators A
Shinku
SID Int. Symp. Dig. Tech. Pap.
Sol. Energy Mater.
Sol. Energy Mater. Sol. Cells
Solid State Commun.
Solid-State Electron.
Solid State Ionics
Solid State Phys.
Solid State Technol.
Sov. Phys. Acoust.
Sov. Phys. Crystallogr.
Sov. Phys. Dokl.
Sov. Phys. JETP
Sov. Phys. Semicond.
Sov. Phys. Solid State
Sov. Phys. Usp.
Supercond. Sci. Technol.
Superlattices Microstruct.
Surf. Coat. Technol.
Surf. Sci.
Synth. Met.
Trans. Faraday Soc.
Trans. Metall. Soc. AIME
Thin Solid Films
Usp. Fiz. Nauk
Vacuum
Z. Angew. Math. Phys.
Z. Angew. Phys.
Z. Kristallogr.
Z. Naturforsch.
Z. Naturforsch. A
Z. Phys. A
Z. Phys. Chem. (Leipzig)

Zh. Eksp. Teor. Fiz.
Zh. Tekh. Fiz.

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