

## A. General

In upper right corner of title page **write by hand** "For CMP".

Manuscripts should be submitted in duplicate. They should preferably be written in English; papers in French or German are also accepted.

Manuscripts must be in their **final form**, typed on one side of each sheet only, with double spacing and wide margins. Formulae should be typewritten whenever possible. Mimeographed copies are not acceptable unless clearly legible.

Please include a "Note for the Printer" explaining markings used. See suggestion overleaf.

To speed up publication, authors will receive **only one set of proofs**: provisionally numbered page proofs. Authors are requested to **correct typographical errors only**; they will be charged for corrections involving changes, additions or deletions to the original manuscript.

**Equations** should be typewritten whenever possible. Even if you use a sophisticated typewriter, some parts of your manuscript will have to be marked to avoid misunderstandings and mistakes. If there is no difference in size, special attention should be given to the placing of subscripts and superscripts so that they are recognizable as such. Please avoid multilevel formulas, subscripts, or superscripts, whenever possible (see overleaf).

**Diagrams** should be submitted on separate sheets, not included in the text. They should be drawn in Indian ink in clean uniform lines, the whole about twice the size of the finished illustration. Inscriptions should allow for the figure 1, for example, to be about 2 mm high in the final version (i.e. 4 mm for reduction  $\times \frac{1}{2}$ ). The author should mark in the margin of the manuscript where diagrams may be inserted.

**Footnotes**, other than those which refer to the title heading, should be numbered consequently and placed at the foot of the page to which they refer (not at the end of the article).

Please give on the first page of the manuscript a **running head** (condensed title), which should not exceed 70 letters including spaces.

**References** to the literature should be listed at the end of the manuscript. The following information should be provided for **journal articles**: names and initials of all authors, name of the journal, volume, first and last page numbers and year of publication. It is suggested that authors give complete titles of articles referred to. References to **books** should include name(s) of author(s), full title, edition, place of publication, publisher and year of publication.

### *Examples*

Haag, R., Swieca, J.A.: When does a quantum field theory describe particles?  
Commun. Math. Phys. **1**, 308–320 (1965)

Glimm, J., Jaffe, A.: Quantum physics. A functional integral point of view. Berlin, Heidelberg, New York: Springer 1981

## B. Marking

### 1. Text

The words “**Theorem**”, “**Lemma**”, “**Corollary**”, “**Proposition**” etc. are normally printed in **boldface**, followed by *the formulation* in italics (*to be underlined by the author in the manuscript*).

The words “*Proof*”, “*Remark*”, “*Definition*”, “*Note*” etc. are printed in italics with the formulation in ordinary typeface.

*Words or sentences to be set in italics should be marked by single underlining.*

### 2. Formulas

Letters in formulas are normally printed in italics, figures in ordinary typeface.

It will help the printer if in doubtful cases the position of indices and exponents is marked thus:  $b^{\uparrow}$ ,  $a^{\downarrow}$ . Spacing of indices and exponents must be specially indicated ( $A_m^n$ ) otherwise they will be set ( $A_{mn}^{mn}$ ).

*Underlining for special alphabets and typefaces should be done according to the following code:*

single underlining:	small letter
double underlining:	capital letter
brown:	boldface headings, boldface letters in formulas
yellow:	upright (abbreviations e.g. Rc, Im, log, sin, ord, id, lim, sup, etc.)
red:	Greek
blue:	Gothic
green:	Script
violet:	<b>the numeral 1, and zero (to distinguish them from the small letter <i>l</i> and the capital letter <i>O</i>)</b>
orange:	Special Roman

The following are frequently confused:

$\cup, u, \bigcup, U$ ;  $\circ, o, O, 0$ ;  $\times, x, X, \kappa$ ;  $\vee, v, \nu$ ;  $\theta, \Theta, \phi, \varphi, \Phi, \theta$ ;  $\psi, \Psi$ ;  $\varepsilon, \epsilon$ ;

$a', a^1$ ; the symbol  $a$  and the indefinite article  $a$ ;

also the handwritten Roman letters:

$c, C$ ;  $e, l$ ;  $I, J$ ;  $k, K$ ;  $o, O$ ;  $p, P$ ;  $s, S$ ;  $u, U$ ;  $v, V$ ;  $w, W$ ;  $x, X$ ;  $z, Z$ ;

*Please take care to distinguish them in some way.*

## C. Examples

### 1. Special alphabets or typefaces

Script	<i>A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z</i> <i>a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z</i>
Sanserif	<b>A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z</b> <b>a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z</b>
Gothic	<b>A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z</b> <b>a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z</b>
Boldface	<b>A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z</b> <b>a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z</b>
Special Roman	<b>A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, 1</b>
Greek	$\Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Phi, \Psi, \Omega$ $\alpha, \beta, \gamma, \delta, \varepsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \varphi, \phi, \chi, \psi, \omega$

### 2. Notations

preferred form	instead of	preferred form	instead of
$A^*, \tilde{b}, \gamma', \nu$	$\bar{A}, \tilde{b}, \check{\gamma}, \tilde{\nu}$	$f: A \rightarrow B$	$A \xrightarrow{f} B$
lim sup, lim inf	$\overline{\lim}, \underline{\lim}$		$\cos \frac{1}{x}$
inj lim, proj lim	$\overline{\lim}, \underline{\lim}$	$\frac{\cos(1/x)}{(a+b/x)^{1/2}}$	$\sqrt{a + \frac{b}{x}}$
$\exp(-(x^2 + v^2)/a^2)$	$e^{-\frac{x^2 + v^2}{a^2}}$		
$f^{-1}$	$f^{-1}$		

Authors of this journal can benefit from library and photocopy fees collected by VG WORT if certain conditions are met. If an author lives in the Federal Republic of Germany or in West Berlin, it is recommended that he contact Verwertungsgesellschaft WORT, Abteilung Wissenschaft, Goethestrasse 49, D-8000 München 2, for detailed information.

# HANDBUCH DER PHYSIK

## ENCYCLOPEDIA OF PHYSICS

HERAUSGEGEBEN VON / EDITOR IN CHIEF

**S. FLÜGGE**

The original **Encyclopedia of Physics** was published by H. Geiger and K. Scheel in 21 volumes between the years 1926 and 1929. In 1933 three additional double volumes were included. The "old" encyclopedia appeared at a time when relativity theory and quantum theory had just begun to open new dimensions in modern physics.

The following two decades witnessed an unprecedented expansion throughout physics, classical as well as atomic and subatomic. In the early fifties, it had become clear that the old handbook no longer adequately reflected the level of research attained in either classical or atomic physics. S. Flügge then undertook a revitalization of the handbook for publication by Springer-Verlag.

The "new" encyclopedia was conceived as a self-contained unit. It is divided into 11 groups, each of which corresponds to a particular physical motif:

- Group 1: Mathematical Methods · Group 2: Principles of Theoretical Physics
- Group 3: Mechanical and Thermal Behaviour of Matter
- Group 4: Electric and Magnetic Behaviour of Matter · Group 5: Optics
- Group 6: X-Rays and Corpuscular Physics · Group 7: Atomic and Molecular Physics
- Group 8: Nuclear Physics · Group 9: Cosmic Rays
- Group 10: Geophysics · Group 11: Astrophysics

Normal List Price (54 Volumes in 77 parts, volumes 3/1, 24, 25/1 out of print): DM 16.119,60

Subscription price (valid only for purchase of all available volumes): DM 12.895,70

Individual volumes are also available separately

now  
complete



**SPRINGER-VERLAG**  
**BERLIN HEIDELBERG NEW YORK TOKYO**

Tiergartenstr. 17, D-6900 Heidelberg 1 or 175 Fifth Ave., New York, NY 10010, USA or 37-3, Hongo 3-chome, Bunkyo-ku, Tokyo 113, Japan

Communications in  
**Mathematical  
Physics**

Chief Editor A. Jaffe, Cambridge, MA

Editorial Board  
H. Araki, Kyoto  
M. E. Fisher, Ithaca, NY  
J. Fröhlich, Zürich  
R. Haag, Hamburg  
S. Hawking, Cambridge  
O. Lanford, Bures-sur-Yvette  
J. L. Lebowitz, New Brunswick, NJ  
G. Mack, Hamburg  
J. Mather, Princeton, NJ  
L. Nirenberg, New York, NY  
K. Osterwalder, Zürich  
G. Parisi, Roma  
B. Simon, Pasadena, CA  
Ya. G. Sinai, Moscow  
T. Spencer, New York, NY  
S.-T. Yau, La Jolla, CA

Advisory Board  
M. F. Atiyah, Oxford  
F. Hirzebruch, Bonn  
G. 't Hooft, Utrecht  
R. Schrieffer, Santa Barbara, CA  
I. Singer, Cambridge, MA  
C. N. Yang, Stony Brook, NY

Responsible for Advertisements

Springer-Verlag  
Printers  
Printed in Germany

E. Lückermann, M. Stresow, Kurfürstendamm 237, D-1000 Berlin  
Telephone: (0 30) 8 82 10 31, Telex 01-85 411  
Berlin Heidelberg New York Tokyo  
Brühlsche Universitätsdruckerei, Giessen  
© Springer-Verlag Berlin Heidelberg 1985  
Springer-Verlag GmbH & Co KG 1000 Berlin 33