# Instructions to Authors

## 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: $b_{\wedge}$, $a^{\vee}$.

Spacing of indices and exponents must be specially indicated $(A_m{}^n{}_n{}^m)$ otherwise they will be set $(A_{mn}^{nm})$.

*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:** | **the numeral 1, and zero (to distinguish them from the small letter** $l$ **and the capital letter** $O$ **)** |
| orange: | Special Roman |

The following are frequently confused:

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

$a', a^1$;    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 | $\mathscr{A}, \mathscr{B}, \mathscr{C}, \mathscr{D}, \mathscr{E}, \mathscr{F}, \mathscr{G}, \mathscr{H}, \mathscr{I}, \mathscr{J}, \mathscr{K}, \mathscr{L}, \mathscr{M}, \mathscr{N}, \mathscr{O}, \mathscr{P}, \mathscr{Q}, \mathscr{R}, \mathscr{S}, \mathscr{T}, \mathscr{U}, \mathscr{V}, \mathscr{W}, \mathscr{X}, \mathscr{Y}, \mathscr{Z}$ |
| | $a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z$ |
| Sanserif | 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 |
| | 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 |
| Gothic | $\mathfrak{A}, \mathfrak{B}, \mathfrak{C}, \mathfrak{D}, \mathfrak{E}, \mathfrak{F}, \mathfrak{G}, \mathfrak{H}, \mathfrak{I}, \mathfrak{J}, \mathfrak{K}, \mathfrak{L}, \mathfrak{M}, \mathfrak{N}, \mathfrak{O}, \mathfrak{P}, \mathfrak{Q}, \mathfrak{R}, \mathfrak{S}, \mathfrak{T}, \mathfrak{U}, \mathfrak{V}, \mathfrak{W}, \mathfrak{X}, \mathfrak{Y}, 3$ |
| | $\mathfrak{a}, \mathfrak{b}, \mathfrak{c}, \mathfrak{d}, \mathfrak{e}, \mathfrak{f}, \mathfrak{g}, \mathfrak{h}, \mathfrak{i}, \mathfrak{j}, \mathfrak{k}, \mathfrak{l}, \mathfrak{m}, \mathfrak{n}, \mathfrak{o}, \mathfrak{p}, \mathfrak{q}, \mathfrak{r}, \mathfrak{s}, \mathfrak{f}, \mathfrak{t}, \mathfrak{u}, \mathfrak{v}, \mathfrak{w}, \mathfrak{x}, \mathfrak{y}, 3$ |
| Boldface | **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** |
| | **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** |
| Special Roman | $\mathbb{A}, \mathbb{B}, \mathbb{C}, \mathbb{D}, \mathbb{E}, \mathbb{F}, \mathbb{G}, \mathbb{H}, \mathbb{I}, \mathbb{J}, \mathbb{K}, \mathbb{L}, \mathbb{M}, \mathbb{N}, \mathbb{O}, \mathbb{P}, \mathbb{Q}, \mathbb{R}, \mathbb{S}, \mathbb{T}, \mathbb{U}, \mathbb{V}, \mathbb{W}, \mathbb{X}, \mathbb{Y}, \mathbb{Z}, \mathbb{1}$ |
| Greek | $\Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Phi, \Psi, \Omega$ |
| | $\alpha, \beta, \gamma, \delta, \varepsilon, \zeta, \eta, \vartheta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, o, \pi, \rho, \sigma, \tau, \upsilon, \varphi, \phi, \chi, \psi, \omega$ |

### 2. Notations

| preferred form | instead of | | preferred form | instead of |
|---|---|---|---|---|
| $A^*, \tilde{b}, \gamma', \mathbf{v}$ | $\bar{A}, \hat{b}, \check{\gamma}, \check{v}$ | | $f: A \to B$ | $A \xrightarrow{f} B$ |
| lim sup, lim inf | $\overline{\lim}, \underline{\lim}$ | | | |
| inj lim, proj lim | $\varinjlim, \varprojlim$ | | | $\cos \dfrac{1}{x}$ |
| $\exp\left(-(x^2 + v^2)/a^2\right)$ | $e^{-\frac{x^2+y^2}{a^2}}$ | | $\dfrac{\cos(1/x)}{(a+b/x)^{1/2}}$ | $\dfrac{\cos \dfrac{1}{x}}{\sqrt{a + \dfrac{b}{x}}}$ |
| $f^{-1}$ | $\overset{-1}{f}$ | | | |

## Springer Journals keeping you in pace with science:

Springer Journals are known and respected internationally for keeping professionals in science and in medicine, in research and in industry well-informed about the rapid progress in their fields. Decide for yourself by sending in one of the order coupons.

32731/11.82.1.000.Rhl.

To: **The Head Librarian/The Library Committee**

From: _____

Department: _____

☐ I/we have studied the Springer Journal(s)

_____

☐ and recommended that the journal(s) be purchased for the **Main/Department Library**

☐ I/we would like to see the Springer Journals Catalog with information on subscriptions/back volumes

☐ Please obtain sample copies on other related Springer Journals and/or latest index/sample copy including volume-index

_____

## SUBSCRIPTION ORDER FORM

**Please order through your bookseller or:**

SPRINGER-VERLAG BERLIN HEIDELBERG NEW YORK

Springer-Verlag, P. O. Box 105280, D-6900 Heidelberg
(All countries except North America)
(North America) Springer-Verlag New York Inc.,
175 Fifth Avenue, New York, NY 10010, USA
North America subscriptions are entered with prepayment only.

☐ Please enter my/our subscriptions to (please give title or ISSN)

_____

Full subscription information is given on inside front or back cover page.

Name: _____

Address: _____

_____

Date/Signature: _____

☐ This is a new order          ☐ This is a renewal order

Please send information concerning

☐ back volumes  ☐ journals catalog

Please send a sample copy of

_____

_____

To: **The Head Librarian/The Library Committee**

Postcard

_____

_____

_____

_____

# Monte Carlo Methods

## Applications of the Monte Carlo Method

### in Statistical Physics

Editor: **K. Binder**
1984. 90 figures. Approx. 330 pages
(Topics in Current Physics, Volume 36)
Cloth DM 82,50; approx. US $ 30.80
ISBN 3-540-12764-X

**Contents:** *K. Binder:* A Simple Introduction to Monte Carlo Simulation and Some Specialized Topics. – *D. Levesque, J.-J. Weis, J. P. Hansen:* Recent Developments in the Simulation of Classical Fluids. – *D. P. Landau:* Monte Carlo Studies of Critical and Multicritical Phenomena. – *K. E. Schmidt, M. H. Kalos:* Few- and Many-Fermion Problems. – *A. Baumgärtner:* Simulations of Polymer Models. – *K. W. Kehr, K. Binder:* Simulation of Diffusion in Lattice Gases and Related Kinetic Phenomena. – *Y. Saito, H. Müller-Krumbhaar:* Roughening and Melting in Two Dimensions. – *K. Binder, D. Stauffer:* Monte Carlo Studies of "Random" Systems. – *C. Rebbi:* Monte Carlo Calculations in Lattice Gauge Theories. – Additional References with Titles. – Subject Index.

## Monte Carlo Methods

### in Statistical Physics

Editor: **K. Binder**
1979. 91 figures, 10 tables. XV, 376 pages
(Topics in Current Physics, Volume 7)
Cloth DM 74,–; approx. US $ 27.70
ISBN 3-540-09018-5

**Contents:** *K. Binder:* Introduction: Theory and "Technical" Aspects of Monte Carlo Simulations. – *D. Levesque, J. J. Weis, J. P. Hansen:* Simulation of Classical Fluids. – *D. P. Landau:* Phase Diagrams of Mixtures and Magnetic Systems. – *D. M. Ceperley, M. H. Kalos:* Quantum Many-Body Problems. – *H. Müller-Krumbhaar:* Simulation of Small Systems. – *K. Binder, M. H. Kalos:* Monte Carlo Studies of Relaxation Phenomena: Kinetics of Phase Changes and Critical Slowing Down. – *H. Müller-Krumbhaar:* Monte Carlo Simulation of Crystal Growth. – *K. Binder, D. Stauffer:* Monte Carlo Studies of Systems with Disorder. – *D. P. Landau:* Applications in Surface Physics.

## The Monte Carlo Methods in Atmospheric Optics

By *G. I. Marchuk, G. A. Mikhailov, M. A. Nazareliev, R. A. Darbinjan, B. A. Kargin, B. S. Elepov*
1980. 44 figures, 40 tables. VIII, 208 pages
(Springer Series in Optical Sciences, Volume 12)
Cloth DM 68,–; approx. US $ 25.40
ISBN 3-540-09402-4

**Contents:** Introduction. – Elements of Radiative-Transfer Theory Used in Monte Carlo Methods. – General Questions About the Monte Carlo Technique for Solving Integral Equations of Transfer. – Monte Carlo Methods for Solving Direct and Inverse Problems of the Theory of Radiative Transfer in a Spherical Atmosphere. – Monte Carlo Algorithms for Solving Nonstationary Problems of the Theory of Narrow-Beam Propagation in the Atmosphere and Ocean. – Monte Carlo Algorithms for Estimating the Correlation Function of Strong Light Fluctuations in a Turbulent Medium. – References. – Subject Index.

## W. Bruns, I. Motoc, K. F. O'Driscoll

## Monte Carlo Applications in Polymer Science

1981. V, 180 pages
(Lecture Notes in Chemistry, Volume 27)
DM 34,80; approx. US $ 13.00
ISBN 3-540-11165-4

**Contents:** *I. Motoc, W. Bruns:* The Monte Carlo Method and Applications. – *I. Motoc, F. K. O'Driscoll:* Monte Carlo Calculation of Sequence Distributions in Polymers. – *W. Bruns:* Polymer Configuration. – *W. Bruns, I. Motoc:* Fortran Programs.

7172/5/1

# Communications in

# Mathematical

# Physics