# **INSTRUCTIONS TO AUTHORS**

# A. General

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.

**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 consecutively 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. References to **books** should include name(s) of author(s), full title, edition, place of publication, publisher and year of publication.

# Examples

Bombieri, E., Giusti, E.: Inventiones math. 15, 24–46 (1971)
Tate, J. T.: *p*-Divisible groups. In: Proceedings of a conference on local fields, pp. 158–183. Berlin-Heidelberg-New York: Springer 1967

Commun. math. Phys.

# **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 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. Formulae

Letters in formulae 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:  $b \uparrow$ ,  $a \lor$ . Spacing of indices and exponents must be specially indicated  $(A_m^n n^m)$  otherwise they will be set  $(A_m^n n)$ .

Underlining for special alphabets and typefaces should be done according to the following code: single underlining small letter

single anderning.	
double underlining:	capital letter
brown:	boldface headings, boldface letters in formulae
yellow:	upright
	(abbreviations e.g. Re, 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 <i>l</i> and the capital letter <i>O</i> )

The following are frequently confused:

 $\cup, \mathbf{U}, \bigcup, U; \quad \circ, o, O, 0; \quad \times, x, X, \kappa; \quad \vee, v, v; \quad \theta, \Theta, \phi, \phi, \phi, \phi; \quad \psi, \Psi; \quad \varepsilon, \epsilon;$ 

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

also the handwritten Roman letters:

1 Special alphabets on typefages

c, C; e, l; l, 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 typelaces		
Script	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, 2, R, S, T, U, V, W, X, Y, L	
	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, x	
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	U, B, C, D, E, F, G, H, J, J, A, L, M, N, D, P, Q, R, S, I, U, B, W, X, Y, J	
	a, b, c, d, e, f, g, h, i, j, t, l, m, n, o, p, q, r, s, f, t, u, v, w, x, ŋ, z	
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	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	
Greek	$\Gamma, \Delta, \Theta, \Lambda, \Xi, \Pi, \Sigma, \Phi, \Psi, \Omega$	
	$\alpha, \beta, \gamma, \delta, \varepsilon, \zeta, \eta, \theta, \vartheta, \iota, \kappa, \lambda, \mu, \nu, \xi, o, \pi, \rho, \sigma, \tau, \upsilon, \varphi, \phi, \chi, \psi, \omega$	

#### 2. Notations

preferred form	instead of	preferred form	instead of
$A^*, b, \gamma', v, v$	$ar{A}, ar{b}, \check{\gamma}, ec{v}$	$f: A \rightarrow B$	$A \xrightarrow{f} B$
lim sup, lim inf	lim, <u>lim</u>		
inj lim, proj lim	lim, lim	$\cos(1/x)$	$\cos\frac{1}{x}$
$\exp\left(-(x^2+y^2)/a^2\right)$	$e^{-\frac{x^2+y^2}{a^2}}$	$\frac{1}{(a+b/x)^{1/2}}$	$\overline{1/a}$
$f^{-1}$	$\int_{f}^{-1}$		$\sqrt{a+\frac{1}{x}}$

# Letters in Mathematical Physics

A Journal for the Rapid Dissemination of Short Contributions in the Field of Mathematical Physics

Editors: M. FLATO, Université de Dijon, France; M. GUENIN, Institut de Physique Théorique, Geneva, Switzerland; R. RACZKA, Institute of Nuclear Research, Warsaw, Poland; S. ULAM, University of Colorado, Boulder, Colo., U.S.A.

The aim of this journal is to present to the specialized reader (from the level of graduate student upwards) important new developments in the area of mathematical physics. The journal will be a vehicle for the rapid communication of short contributions and will contain letters in the fields of: group theory and applications to physics; quantum-field theory: mathematical models for particle, nuclear, plasma and solid-state physics; classical, quantum, and statistical mechanics; relativity and gravitation; etc. It will, in addition, contain important contributions to modern mathematics in such fields as functional analysis, differential geometry, algebra, topology, etc... which have potential physical applications.

## Forthcoming papers:

A. Salam and J. Strathdee: A Theorem Concerning Goldstone Ferminons.

M. Moreau: On the Derivation of the Onsager Relations from the Master Equation.

- G. Rideau: On the Realization of Landau Gauge.
- S. Simon: A Garding Domain for Representations of Some Hilbert Lie Groups.
- *R. L. Anderson* and *J. W. Turner:* A Type of Bäcklund-Like Invariance Transformation for a Class of Second-Order Ordinary Differential Equations.

*P. A. Rejto:* On a Theorem of Titchmarsch-Neumark-Walter Concerning Absolutely Continuous Operators I (The Abstract Part).

P. A. Retjo: On a Theorem of Tischmarsch-Neumark-Walter Concerning Absolutely Continuous Operators II (The Estimates).

# Subscription Information:

**1975:** Vol. 1 (1). Dfl. 100,- / US \$40.00 per volume of 6 issues, including Dfl. 20,- / US \$8.00 postage and handling. Private price Dfl. 75,- / US \$30.00, including postage and handling. **1976:** Vol. 2 (1). Dfl. 100,- / US \$40.00 per volume of 6 issues, including Dfl. 20,- / US \$8.00 postage and handling. Private price Dfl. 75,- / US \$30.00, including postage and handling.

# Ask for your free sample copy



**D. Reidel Publishing Company** 

P.O. Box 17, Dordrecht-Holland 306 Dartmouth Street, Boston, MA 02116 - U.S.A.

# Communications in Mathematical Physics

Volume 45 Number 1 1975

# Contents

D. Buchholz	Collision Theory for Waves in Two Dimensions and a Characterization of Models with Trivial S-Matrix 1
R. M. Wald	On Particle Creation by Black Holes 9
V. Enss	Characterization of Particles by Means of Local Observables 35
J. C. Wolfe	Free States and Automorphisms of the Clifford Algebra 53
S. Doplicher	A Remark on a Theorem of Powers and Sakai 59
A. J. O'Connor	A Central Limit Theorem for the Disordered Har- monic Chain 63
K. Symanzik	Note Renormalization Problem in Nonrenormalizable Massless $\Phi^4$ Theory 79

Indexed in Current Contents

Responsible for advertisements

Springer-Verlag Printers Printed in Germany L. Siegel, D-1000 Berlin 15, Kurfürstendamm 237 Telephone: (0 30) 8 82 10 31, Telex 01-85 411 Berlin Heidelberg New York Brühlsche Universitätsdruckerei, Gießen © by Springer-Verlag Berlin Heidelberg 1975