

House Style Guide: Version 2.0

1. FORMAT

1.1 General

1.1.1 The Word copy of the translation should be in the following order: rubric, title, author(s), affiliation(s), address(es), date received, abstract, body of text, appendices, acknowledgments, biography, references, tables (with key), figure captions (with key).

1.2 Main Heading

1.2.1 The main heading appears in the following order:

- (1) Rubric: if necessary (and available), this appears at the top of the first page in all capital letters.
- (2) The title of the article (see Capitalization for use of capital letters in titles).

Note: If the article was originally submitted by the authors in English and was not edited, a footnote must be made to the title. Use the following format for the footnote:

The article is published in the original.

If the original language of the article is English, but this text was edited, use the following format for the footnote:

The text was submitted by the author(s) in English.

If the original language of the article is Russian and then the article was translated into English by the author, then use the following format for the footnote:

The article was translated by the author(s).

(3) The list of authors by initials and surname, with one space between the initials of an author's name, and one space between the initials and the surname.

(4) The list of affiliations and addresses of the authors (refer to Addresses for the correct way to formulate addresses).

Note: If there is more than one affiliation and address, follow the same format as above (authors and then affiliations), but use lowercase letters in italics to indicate the institute with which each author is affiliated, including the first.

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If an author has more than one affiliation, use the following format:

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ul. Pervogo maya 100, Petrodvorets, 198904 Russia

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1.3 Abstract

1.3.1 The main heading is followed by the abstract. The word *abstract* should be capitalized. The following is the correct format for abstracts:

First Stage

@Abstract@---The electroluminescent and photoluminescent properties of polymeric films based on poly(hydroxyaminoethers) were studied.

Second Stage

Abstract—The electroluminescent and photoluminescent properties of polymeric films based on poly(hydroxyaminoethers) were studied.

Note: The present and present perfect tenses in passive voice are generally preferred in abstracts. The abstract should be printed as a single paragraph.

The behavior of the flare plasma parameters is considered.

It has been indicated that the intensity of auroral disturbances decreases with increasing electric fields.

1.4 Date Received

1.4.1 The date the article was received (Received + month, day, and year) should be placed on a separate line between the address and the beginning of the abstract. If more than one date is provided, use the format illustrated below.

Received July 17, 2001; in final form, August 19, 2001

Note: A few journals use a different format. Refer to the appropriate journal appendix.

1.5 Headings and Subheadings

1.5.1 Headings of sections within the text should be written in all capitals. First-level subheadings should be marked at the beginning and end with @ (at first stage) to indicate italicization and should follow title capitalization. Second-level subheadings (i.e., headings run into a paragraph) should follow sentence capitalization, with the first word and proper nouns capitalized, and should be marked with @ to indicate italicization. Second-level subheadings may also be set in bold if so specified in the journal appendix or by the chief translator; however, note that the form chosen for a particular type of second-level subheading should be used consistently throughout the paper.

INTRODUCTION [section heading]

FORMULATION OF THE PROBLEM

Early Research [first-level subheading]

The Latest Findings

EXPERIMENTAL

Synthesis

Calorimetric Measurements

Heat capacities [second-level subheading]

RESULTS AND DISCUSSION

CONCLUSIONS
APPENDIX (APPENDICES)
ACKNOWLEDGMENTS
REFERENCES
TABLES
Table 1
Key
Table 2
Key
FIGURE CAPTIONS
Fig. 1
Key

1.6 Acknowledgments

Note: This is a standard subsection title and **must** appear as *ACKNOWLEDGMENTS* regardless of the number of people or institutions being acknowledged.

1.6.1 Acknowledgments should be brief and use common English constructions. Rather than a phrase such as *The authors would like to take this opportunity to express their sincere gratitude to ...*, use a phrase such as *We would like to thank ...*

We thank A.A. Starobinskii and M.Yu. Khlopov for their participation in discussions of the results.

We are grateful to A.S. Sharov and the reviewers for careful reading of the manuscript and helpful remarks.

Note that *grateful*, not *thankful*, should be used in acknowledgments.

1.6.2 Much research is funded by the Российский Фонд Фундаментальных Исследований. This should be acknowledged as in the following examples (and never simply RFBR):

This work was supported by the Russian Foundation for Basic Research, project no. 94-02-04253a.

This study was supported in part by the Russian Foundation for Basic Research, project no. 94-02-04253a.

Acknowledgment by an author or authors of support received by themselves, and not the project as a whole, is formatted as follows:

M.V. Sazhin acknowledges the support of the Russian Foundation for Basic Research (project no. 94-02-04253a), the International Science Foundation (grant no. NDH 000), and the Cosmion Scientific Research Center.

An initial may be used in place of the surname (i.e., in the above example, “M.V.S. acknowledges”).

1.7 Biographies

1.7.1 If a biography of the author is included with an article, it should be formulated as follows:

Vladimir Prokof'evich Kozhemyako. Born 1945. Graduated from the Lvov Polytechnic Institute in 1968. Received candidate's degree in 1977 and doctoral degree in 1987. Scientific interests: optoelectronic methods and machine vision systems. Author of 125 papers. Member of the National Academy of Sciences of Ukraine.

1.8 Footnotes

1.8.1 Footnotes should be indicated after the item(s) to which they refer. Whenever possible, avoid placing footnote markers in the middle of sentences. The item should be followed by the footnote number and (at first stage) the text of the footnote in parentheses, with the word *Footnote*. Mark the spot with @ to indicate superscripting and place another @ to indicate the end of the footnote. Do not place the text of the footnote at the end of the paper.

We cannot provide an analysis in this paper because of space limitations.@4 (Footnote 4: Our forthcoming paper will clarify these points.)@

1.9 Appendices

1.9.1. An appendix or appendices appear between the end of the main text and the beginning of the ACKNOWLEDGMENTS section, or at the beginning of the REFERENCES section if there are no ACKNOWLEDGMENTS.

1.9.2. If there is more than one appendix, they should be designated with consecutive letters (APPENDIX A, APPENDIX B, APPENDIX C, etc.).

1.9.3. Equations appearing in an appendix should be numbered sequentially, preceded by the letter of the given appendix, for example, (A.1), (A.2); (B.1), (B.2); etc.

NOTE: If there is only one appendix, numbering of equations should be preceded by the letter “A”; however, the section heading will appear as “APPENDIX” with no letter designation.

1.10 Format Specifications and Changes to Text

1.10.1 (For translators only) All changes that the translator considers necessary to introduce into the translated material must be approved by the author. Only changes made in blue pen and accompanied in the margin of the photocopy of the Russian manuscript by the words *Согласовано с автором* and the translator’s signature will be introduced.

1.10.2 Do not type-set formulas or nonstandard type styles. Instead, use @ to indicate (1) all super- or subscripts; (2) all mathematical or chemical symbols that are inaccessible by a single keyboard stroke; and (3) all formatting, such as bold or italic type. In each case, close @ up to the item it designates. Formatting should be marked at both its beginning and its end. Complicated or unusual formatting may require specifications, which should be placed in square brackets (e.g., [*ital*], [**bold**], [*alpha*]) after the item requiring special formatting.

1.10.3 If the order of the formulas remains the same as in the Russian text, a single @ before the first letter of the formula is sufficient. If the order is changed or if there is a chance that the scientific editor or the layout editor will not be certain which formula goes in which spot, add the minimum quantity of symbols that will permit identification of the formula. Thus,

В изовекторном канале мнимые части нуклонных формфакторов при $t > t_0 = (2\mu)^2$ выражаются через пионный формфакторов и p -волновую амплитуду $\pi\pi \rightarrow NN$ рассеяния с помощью аналитического продолжения соотношений унитарности под порог NN .

should appear in the Word text as

By means of analytic continuation of the unitarity relations to the region below the $\pi\pi$ threshold, it can be shown that, in the isovector channel, the imaginary parts of nucleon form factors at $t > t_0 = (2\mu)^2$ are expressed in terms of the pion form factor and the p -wave amplitude of $\pi\pi \rightarrow NN$ scattering.

1.10.4 If there is no punctuation separating the parts of a formula, do not use more than one @, even if the formula is long:

This value is determined as the polynomial of P : $x(m-k, n-1) = \sum_{(i,j) \neq \Omega} a_{i,j}(m,n) k^i l^j$.

becomes

This value is determined as the polynomial of x : $x = x$.

1.10.5 Do not type numbered equations (placed on separate lines). In most cases, it is sufficient to replace the equation with a single @, retaining any required terminating punctuation and the equation number in parentheses, i.e.,

@. (1)

If the equation contains sub- or superscripts or other material that must be translated, make a key (see 1.10.7).

1.10.6 Below are some examples of symbols and formulas and some possible ways of writing them in the Word text:

<i>Symbol or Formula</i>	<i>Possibilities</i>
A_i	@A@i
H_2O	H@2O
8×10^{-15}	8 @ 10@--15
$15 \times 20 \text{ cm}$	15 @ 20 cm
F^{1-x}	@F@[1 -- @x]
μ_B	@[mu]@B
$\text{Cu } K\alpha$	Cu @K@[alpha]

Note: Multiplication signs should be designated @ or @x (not x). Be sure that the proper spacing is maintained.

1.10.7 If indices appearing in text must be italicized, indicate this in brackets after the index or formula only when the layout editor may be confused (i.e., when it is unclear whether the index is part of a word or a symbol). Thus,

E_i should be written in the Word text as @E@i[ital]

For formulas that are not included in a line of text (выносные/рамочные формулы), a key should be provided immediately after the formula, i.e.,

@ (1)
Key: x, i [ital]

If many indices in a special type style are present, a key to them may be provided at the end of the Word text instead, to avoid repetition of format specifications after each index in the text. The key should be in list form:

Key to indices:
italicized: i, x
etc.

However, if the possibility of confusion exists (i.e., identical indices are present, one italic and one roman), the type style should be indicated after each index.

1.10.8 If there are many formulas or symbols in a sentence, be sure that each is easily identifiable. If the formula is accompanied by an equation number, this should be enough to identify it. If two or more symbols or formulas are separated by punctuation (comma, colon, semicolon, period, etc.), be sure to identify each part separately. Thus,

... if k changes by Δk to become
 $k_1 = k + \Delta k,$ (24)

then the velocity parameter β also changes to become
 $\beta_1 = \beta + \Delta\beta,$ (25)

where
 $\beta_1 = k_1 a, \Delta\beta = a\Delta k.$ (26)

should appear as

... if @k changes by @[delta]@k to become
@, (24)
then the velocity parameter @[beta] also changes to become
@, (25)
where
@. (26)

and

In this case, the current through the sample is

$$I_s = \sum_n E_{n\mathbf{k}} \Omega_{n\mathbf{k}} f_F(E_{n\mathbf{k}}) V, \quad (1)$$

where $E_{n\mathbf{k}}$ is the dispersion law for electrons; $\Omega_{n\mathbf{k}}$ is the unit vector along the direction $\Delta_{\mathbf{k}} E_{n\mathbf{k}}$; $f_F(E_{n\mathbf{k}})$ is the equilibrium Fermi–Dirac occupation function, which is equal to zero at $E > E_F + e\phi$; and V is the crystal volume.

should appear as

In this case, the current through the sample is
@, (1)

where $\epsilon(\mathbf{k})$ is the dispersion law for electrons; $\hat{\mathbf{e}}_{\mathbf{k}}$ is the unit vector along the direction $\mathbf{k}$; $f_F(\epsilon(\mathbf{k}))$ is the equilibrium Fermi--Dirac occupation function, which is equal to zero at $\epsilon(\mathbf{k}) > \epsilon_F + e\phi$; and V is the crystal volume.

Note: The above are only possible variations of what might be written so that everything is clear. Again, it is the responsibility of the translator to make all formulas clear to the layout editor.

(For translators) Such explanatory words in brackets as [ital], [bold], [alpha], etc., should be used only in extraordinary cases when understanding can be misleading; e.g., *kappa* can sometimes be misunderstood as *key*. Otherwise texts may result in saturation with these explanatory words, which are not printed in final versions but are erroneously taken into account in signature volume.

Never replace single letters or numerals in the text by a sole ϵ . Always use at least one letter in the case of symbols and the whole numeral even if ϵ goes with it.

Note that such symbols as *, ~, and Roman numerals can be type-set from the keyboard and are not "special" symbols.

For formulas (both numbered and unnumbered), use *Key* in Word copies immediately after the formulas according to Russian symbols or letters numbered by translators in the Russian originals; for instance,

Key: (1) avg, (2) rad, (3) p [instead of the Russian denotations and symbols (1) ср, (2) рад, (3) п]

In formatting a symbol at first stage for which there are possible uppercase and lowercase versions, to avoid confusion, the proper version should be expressed in square brackets.

For example: "П" should be formatted as " π "; "п" should be formatted as " π ".

1.11 Tables

1.11.1 Simple tables should be translated and numbered according to the following system. In the Russian text, number each word or phrase to be translated, beginning in the upper left and proceeding across and down. Use the same number for a word appearing more than once in the table. Then, translate each numbered item in order. Use this simple system whenever possible. The table

Таблица 1. Клинические и иммунологические симптомы вариантов lupus nephritis

Симптом (1)	Больные (2)			
	С почечным (3) синдромом ($n = 21$)		Без почечного (4) синдрома ($n = 29$)	
	число (5)	%	число	%
Лихорадка (6)	10	50	13	43
Сыпь (7)	10	50	16	55
Похудание, облысение, астения (8)	14	70	19	63
Синдром Рейно (9)	1	5	0	0
Синдром Шёррена (10)	0	0	0	0

which should appear as

Table 1. Clinical and immunological features of lupus nephritis variants

Sign	Patients			
	with nephrotic syndrome (<i>n</i> = 21)		without nephrotic syndrome (<i>n</i> = 29)	
	abs.	%	abs.	%
Fever	10	50	13	43
Butterfly rash	10	50	16	55
Weight loss, alopecia, asthenia	14	70	19	63
Raynaud's syndrome	1	5	0	0
Sjogren's syndrome	0	0	0	0

would be written as follows:

Table 1. Clinical and immunological feature of lupus nephritis variants

Key: 1. Sign; 2. Patients; 3. with nephrotic syndrome (*n* = 21); 4. without nephrotic syndrome (*n* = 29); 5. abs.; 6. Fever; 7. Butterfly rash; 8. Weight loss, alopecia, asthenia; 9. Raynaud's syndrome; 10. Sjogren's syndrome

1.11.2 In some circumstances, it may be preferable to use the following system. Note that this system is considerably more complex and should not be used without justification. Number the columns of the table in order of appearance. Subdivisions within each column should be indicated by .1, .2, .3, etc. Rows should also be numbered. The placement of each item in each row should be designated by the number of the row, a decimal point, and the number of the column. For example: the item in the sixth row, third column, and first subdivision would be designated as 6.3.1. The translator need only list translated words.

For example, the table

Таблица 1. Клинические и иммунологические симптомы вариантов lupus nephritis

Симптом (1)	Больные (2)			
	С почечным (2.1) синдромом (<i>n</i> = 21)		Без почечного (2.2) синдрома (<i>n</i> = 29)	
	число(2.1.1)	%(2.1.2)	число(2.2.1)	%(2.2.2)
Лихорадка (1.1)	10	50	13	43
Сыпь (2.1)	10	50	16	55
Похудание, облысение, астения (3.1)	14	70	19	63
Синдром Рейно (4.1)	1	5	0	0
Синдром Шёгрена (5.1)	0	0	0	0

would be written as follows:

Table 1. Clinical and immunological features of lupus nephritis variants

Key: Columns: 1. Sign; 2. Patients; 2.1. with nephrotic syndrome (@*n* = 21); 2.2. without nephrotic syndrome (@*n* = 29); 2.1.1. abs.; 2.1.2. %; 2.2.1. abs.; 2.2.2. %

Rows: 1.1. Fever; 2.1. Butterfly rash; 3.1. Weight loss, alopecia, asthenia; 4.1. Raynaud's syndrome; 5.1. Sjogren's syndrome

1.11.3 For both systems of table translation, note that translated words or phrases **MUST** be numbered in the Russian original. Do not simply translate them and number them in the translation without numbering them in the original.

1.11.4 If the table has notes, they should be formatted in the proofs as follows. Source notes, if any, should be given first, preceded by **Source(s)**: General notes (i.e., notes that apply to the whole table)

should be given next and preceded by **Note(s)**: Specific notes should follow general notes and should be formatted in one of three ways:

(1) Superscripted letters are used for notes to a specific part of a table (e.g., items or headings within the table).

(2) Superscripted numbers may be used for a table composed only of words.

(3) Symbols may be used in certain cases (i.e., a table containing formulas, in which case use of superscripted numbers or letters could lead to confusion).

Notes on probability, if any, are given after any other specific notes. Specific notes and notes on probability that follow a general note should be placed flush left, not indented under *Note*:. Thus, the four types of notes following a table would appear as follows:

Source: Smith, A.B., *Genetics*, 1995, vol. 139, no. 3, p. 1320.

Note: Data were collected in only seven Siberian sites.

^aData are incomplete for this site.

^bData for 1993 not included.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

1.11.5 If there is only one table in an article, it should not be numbered, and in this case the word *table* should not be capitalized in text. If such a table is referred to parenthetically in text, write (*see table*) or (*table*). If the table does not have a heading, *table* (capitalized and in bold roman type) should be used in place of the heading. Otherwise, the heading should be used without *table*.

1.12 Figures

1.12.1 Words or phrases within figures must be numbered in the Russian manuscript, translated, and organized in a numbered key, as follows. The key for the figure should appear in the Word manuscript after the translated figure caption. Numbered points with the *Key* for both tables and figures should be written in a unified manner. The best way is to put numbers in parentheses, for instance,

Key: (1) Thickness of vein; (2) Time; (3)....

Letters indicating panels of a figure or items within a figure do not need to be included in the key.

1.12.2 Letters and numbers used in captions to designate panels of figures or items within figures should be placed in the position that provides greatest caption clarity and least interrupts the flow of the caption. This usually means that letters and numbers should be placed before the items they indicate, although occasionally they may be placed after the items [e.g., @T = (@1) 100, (@2) 200, or (@3) 300 K]. Note how the caption to the following figure is written:

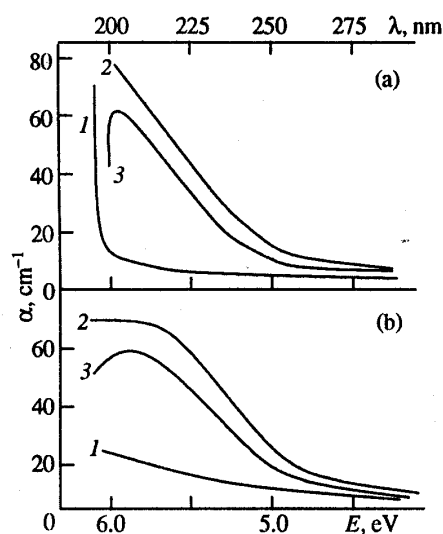


Fig. 1. Absorption spectra of (1) pure alkali–calcium silicate glasses and (2) the same glasses activated with 0.2 mol % Eu_2O_3 . (3) Difference spectra of curves 1 and 2 for glasses with (a) sodium and (b) lithium as modifier.

Note italicization of numbers and lowercase letters designating items within the figure (marked with @ at first stage), e.g., spectra, curves, etc. (see 3.17.11). Letters designating panels are not italicized.

1.12.3 If there is only one figure in an article, it should not be numbered, and in this case the word *figure* should not be capitalized in text. If such a figure is referred to parenthetically in text, write (*see figure*) or (*figure*). If the figure does not have a caption, *figure* (capitalized and in bold roman type) should be used in place of the caption. Otherwise, the caption should be used without *figure*.

Note: If an article has only one figure, but the figure is divided into parts, it should be designated *Figure 1*. For example, write *Fig. 1a*, not, e.g., *figure, a*.

2. SPELLING

2.1 General

2.1.1 Use American spelling.

analyze	<i>not</i>	analyse
color	<i>not</i>	colour
meter	<i>not</i>	metre
program	<i>not</i>	programme
sulfur	<i>not</i>	sulphur

Note: Use the original spelling for proper names (e.g., International Centre for Theoretical Physics).

2.1.2 For standard American spelling, consult *Webster's Ninth New Collegiate Dictionary* or *Merriam-Webster's Collegiate Dictionary*, tenth edition (or <http://www.m-w.com/>); the large *Webster's International*, although it has more words, sometimes has spellings that differ from usual American English (especially with regard to hyphenation). Some words have more than one

acceptable spelling; generally, use the first spelling found in *Webster's*. Note the following exceptions:

equilibria	<i>not</i>	equilibriums
indices	<i>not</i>	indexes [when the word is used in a mathematical sense]
gage	<i>not</i>	gauge [when the word describes a measuring instrument]

2.1.3 Use of indefinite articles, including with abbreviations or acronyms, follows phonetic rules, except in cases of abbreviations of chemical elements, where the indefinite article is chosen according to the full spelling of the first word.

an ECG	an NMR spectrum	a UFO	an APB
exception:	a He–Ne laser (a helium–neon laser)		

2.1.4 For English words, follow the standard principles for word division. Word division of transliterated Russian words should follow the rules of word division of Russian words. **Note:** This is only an issue regarding hyphenation when reading second stage proofs.

2.2 Transliteration

2.2.1 Use the Interperiodica transliteration system **for our regular journals**. There should be no deviations from this system but for the exceptions listed below and in journal appendixes, and preferences of individual authors regarding the spelling of their names.

а	а	ж	zh	н	н	ф	f	ы	y
б	b	з	z	о	о	х	kh	ь	”
в	v	и	i	п	p	ц	ts	э	е
г	g	й	i	р	r	ч	ch	ю	yu
д	d	к	k	с	s	ш	sh	я	ya
е	e	л	l	т	t	щ	shch		
ё	e	м	m	у	u	ъ	’		

Note exceptions for journals formerly published by the American Institute of Physics: й = ĭ; э = é [denoted at first stage as @i and @e, i.e., Mikhailovski@i or Plat@e].

Note: There may be no deviations from AIP transliteration in the spelling of authors’ names, even if the author insists or if he has been published elsewhere under a different spelling.

Here are some names that are commonly transliterated incorrectly in our regular journals:

Kondrat’ev	<i>not</i>	Kondratev or Kondratyev
Petr	<i>not</i>	Pyotr or Peter
Yurii	<i>not</i>	Yuri
Aleksandr	<i>not</i>	Alexander
Mendeleev	<i>not</i>	Mendeleyev

2.2.2 When citing initials, use the entire transliteration of the Russian letter, not just the first letter of the transliteration.

Yu.K. Petrov	Ya.P. Ivanov	Zh. Ignatov
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Note: Initials should be used only at the first mention of a person's name. All subsequent references should use only the person's last name, unless the article mentions two people with the same last name and confusion may result from use of the last name alone. This mistake is commonly found in chronicles, death announcements, symposia announcements, etc.

2.2.3 Use the following transliteration system for Ukrainian.

А	A	Ї	Yi (beginning of word)	Ф	F
Б	B		i (in other positions)	Х	Kh
В	V	Й	Y (beginning of word)	Ц	Ts
Г	H (gh in the combination "зг")		i (in other positions)	Ч	Ch
Ґ	G	К	K	Ш	Sh
Д	D	Л	L	Щ	Sch
Е	E	М	M	Ь	'
Є	Ye (beginning of word)	Н	N	Ю	Yu (beginning of word)
	ie (in other positions)	О	O		iu (in other positions)
Ж	Zh	П	P	Я	Ya (beginning of word)
З	Z	Р	R		ia (in other positions)
И	Y	С	S	,	"
І	I	Т	T		
		У	U		

Note: Transliteration of Ь and ' often omitted in names.

2.3 Transliteration Exceptions

2.3.1 The following are the only exceptions to the Interperiodica transliteration system both for regular and for ex-AIP journals:

(1) Spellings of well-known Russian personal names that are generally accepted in English-speaking countries. Use the "Dictionary of Biographical Names" in *Webster's* as a guideline and the list of names in the appendix for each journal (useful for Russian scientists widely published in the West).

(2) Spellings of well-known geographical place names in the former Soviet Union that are generally accepted in English-speaking countries. Most of the following examples are taken from the "Dictionary of Geographical Names" in *Webster's*.

Azerbaijan <i>not</i> Azerbaidzhan	Rostov-on-Don <i>not</i> Rostov-na-Donu
Belarus <i>not</i> Belarus'	Sevastopol <i>not</i> Sevastopol'
Chisinau <i>not</i> Kishinev	St. Petersburg <i>not</i> Sankt-Peterburg
Karelia <i>not</i> Kareliya	Tajikistan <i>not</i> Tadzhikistan
Kazan <i>not</i> Kazan'	Tolyatti <i>not</i> Tol'yatti
Lviv or Lvov <i>not</i> L'viv or L'vov	Tver <i>not</i> Tver'
Mariupol <i>not</i> Mariupol'	Yaroslavl <i>not</i> Yaroslavl'
Moscow <i>not</i> Moskva	Yegor'yevsk <i>not</i> Egor'evsk
Nizhni Novgorod <i>not</i> Nizhnii Novgorod	Yekaterinburg <i>not</i> Ekaterinburg
Peterhof <i>not</i> Petergof (since 1944, Petrodvorets)	Yerevan <i>not</i> Erevan

(3) Drop the *-skaya* ending on oblast names and the *-skii* ending on krai names that are derived from a present or former city name.

Moscow oblast

Leningrad oblast

Nizhni Novgorod oblast

(4) The foreign-published variants of scientists' names that those working on the journal know to be the scientists' preferred form (listed in the appendix for each journal; consult the scientific editor when in doubt), as well as names of non-Russians, e.g., Germans, Hungarians, etc. (e.g., Schwartz, not Shvarts). However, note that, in references citing the work of a Russian scientist in a non-Russian publication or a foreign scientist in a Russian publication, the scientist's name must be spelled as it appears in the publication, even if the person's name appears in other forms elsewhere in the article.

(5) Titles of journals, books, etc., already published in English.

(6) The word *ruble* and other Russian words that have become commonly known in English (such as *glasnost*, *Chernobyl*, *oblast*);

(7) Effects, laws, reactions, theorems, etc., that are named after scholars (whose names should appear as they have come to be accepted; use the *Dictionary of Named Effects and Laws* as a guide).

2.3.2 The following list includes some of the more confusing spellings of place names. When in doubt, transliterate according to the system above.

<u>NOUN FORM</u>	<u>ADJECTIVAL FORM</u>	
RSFSR*, Russia, Russian Federation	Russian	
Ukraine	Ukrainian	
Byelorussia*, Belarus	Byelorussian*, Belarussian	
Estonia	Estonian	
Latvia	Latvian	
Lithuania	Lithuanian	
Moldavia*, Moldova	Moldavian*, Moldovan	
Georgia	Georgian	
Armenia	Armenian	
Azerbaijan	Azeri, Azerbaijani	
Turkmenistan	Turkmeni	
Kirgizia*, Kyrgyzstan	Kirgiz*, Kyrgyz	
Uzbekistan	Uzbek	
Kazakhstan	Kazakh	
Tajikistan	Tajik	
the Urals	Ural	
Bashkiria*, Bashkortostan	Bashkir	
Tataria*, Tatarstan	Tatar	
Yakutia*, Sakha	Leningrad*, St. Petersburg	Kiev*, Kyiv
Gor'kii*, Nizhni Novgorod	Petrodvorets (before 1944, Peterhof)	the Danube
Lvov*, Lviv	Kharkov*, Kharkiv	

*Before August 1991.

Note: For the correct spelling of geographical names of places outside the former Soviet Union, look in the *English–Russian/Russian–English Geographical Dictionary* or the “Dictionary of Geographical Names” in *Webster’s Collegiate Dictionary*.

3. PUNCTUATION AND TYPE STYLES

3.1 General

3.1.1 See Chapter 10 for punctuation used in references.

3.1.2. In the second stage proofs, be sure that “smart” quotation marks are used.

“blue” copper protein (*not* "blue") Newton’s law (*not* Newton's)

3.2 Apostrophe

3.2.1 The use of an ’s with words ending in [s] or [z] sounds usually depends on whether a pronounceable final syllable is formed: if the syllable is formed, the ’s is used; if no final pronounceable syllable is formed, the apostrophe is retained but the s is not added.

Knox’s products Aristophanes’ play for righteousness’ sake

3.2.2 Form the possessive of a joint owner by adding an apostrophe and an s after the final name only.

Kanter and Marshall’s results Smith and Green’s theory

3.2.3 For use of apostrophes with numerals, see Numeral Usage (Chapter 6).

3.2.4 Unless confusion would result, plurals of abbreviations and acronyms, capital letters used as words, hyphenated coinages used as nouns, and numbers are formed by adding s without an apostrophe.

ECGs the three Rs ABCs ne’er-do-wells sixes and sevens the 1950s

However, abbreviations with periods, lowercase letters used as words, and capital letters that would be confusing if s were added alone form the plural with ’s.

PhD’s p’s and q’s x’s and y’s SOS’s

3.3 Period

3.3.1 Do not use periods after most abbreviations and symbols, except when the abbreviation could be confused with another word (*in.* for inches, *no.* for number, etc.). For examples and exceptions, see Abbreviations (Chapter 5).

3.3.2 Do not use periods in commonly used academic degrees or in abbreviated country names used as adjectives.

US USA UK PhD MS

Note: Write also *Washington, DC*, not *Washington, D.C.*

3.3.3 Do not use periods after the title, authors, and addresses in the main heading of an article, or after headings and table titles. Do use a period after figure captions and footnotes to tables.

3.4 Comma

3.4.1 Never separate a verb from its subject or its object with a single comma.

Incorrect

The addition of substituted silanes to carbon–carbon double bonds, has been studied extensively.

Correct

The addition of substituted silanes to carbon–carbon double bonds has been studied extensively.

3.4.2 Generally use a comma before the coordinating conjunctions *and*, *or*, *nor*, *but*, *yet*, *for*, and *so* when they connect two main clauses (separate subjects and predicates). The comma may be omitted if the clauses are short and closely related. If the clauses themselves contain commas, other internal punctuation, or are very long, they should be separated by a semicolon.

Toluene and hexane were purified by standard procedures, and benzene was redistilled from calcium hydride.

No dielectric constants are available for concentrated acids, so it is difficult to give a quantitative explanation for the results.

[*but*]

The experiment was successful and the results were analyzed.

Notes: (1) In a compound sentence composed of a series of short independent clauses the last two of which are joined by a conjunction, the clauses should be separated by commas. If the clauses themselves contain commas, semicolons should be used to separate all of them.

Harris presented the proposal to the governor, the governor discussed it with the senator, and the senator made an appointment with the president.

Harris presented the proposal, along with a feasibility study, to the governor; the governor discussed it with the senator, who regarded it favorably; and the senator made an appointment with the president.

(2) The comma should be omitted before a conjunction connecting two independent clauses if an introductory prepositional phrase or dependent clause “controls” both main clauses.

For reactions of the order n , $a = b$ and $c = d$.

No comma is needed before *and* because, although the equations function as main clauses, they are both “controlled” by the prepositional phrase; to put a comma after $a = b$ upsets the logical balance in the sentence; i.e., theoretically, $c = d$ could be seen as an entirely separate statement: (For reactions of the order n , $a = b$) and ($c = d$).

(3) No comma is required between two dependent clauses connected by a coordinate conjunction. A comma may be used for clarity.

We know that the pressure rises and the temperature increases when the pot is covered.

In this case, $Q_c = v + 2x$, where $v = y$ and Q_c is the last term.

3.4.3 Use comma(s) to set off an adverbial clause (or long phrase) that precedes or interrupts the main clause.

Because of the known reactivity of x-chloro sulfides, it is not surprising that compound 10 is easily converted to the x-hydroxy sulfide by water.

After an hour of exposure to light, the cells died.

Note: Often a sentence can be improved by moving an interrupting adverbial clause to the beginning of the sentence.

Poor

The report, after being read aloud, was put up for consideration.

Better

After being read aloud, the report was put up for consideration.

3.4.4 (1) Use a comma to set off an introductory phrase or dependent clause before the main clause if it is long or confusing. A good rule of thumb is to use a comma if the introductory phrase consists of four or more words.

In 1977 the maximum allowable concentration of NO_x was revised ... [no comma needed]

In our case the confidence function is piecewise linear ... [no comma needed]

Before we can make a decision, we must have all the facts. [long introductory clause; comma needed]

Note: Omit the comma after an introductory phrase or dependent clause if the word order in the rest of the sentence is inverted.

Only after we have analyzed the data can we make a recommendation.

In precisely this case were the results satisfactory.

Note: Always use a comma to set off a transitional adverb or expression (*however, therefore, consequently, on the contrary, on the other hand*, etc.—see also 3.4.9) that begins a sentence.

(2) Use two commas to set off an introductory phrase at the beginning of a dependent clause or omit the commas altogether. If the phrase is long or breaks the flow of the sentence, then commas should be used.

Our experiments showed that, at low temperature, all of the compounds became brittle. (*or*)

Our experiments showed that at low temperature all of the compounds became brittle.

Such a structure of the melt bath should be considered because of the metallic layer, which, due to its high thermal conductivity, redistributes the heat flux.

(3) An introductory word, phrase, or clause following a coordinate conjunction in a compound sentence may be punctuated as illustrated in the following sentence.

The curves in Fig. 2 are derived from a coarser approximation of the method than those in Fig. 1, but, other than the top curve, they have a reasonable shape. (*or*)

... in Fig. 1, but other than the top curve, they have a reasonable shape. (*or*)

... in Fig. 1, but other than the top curve they have a reasonable shape.

(4) Use two commas to set off a word, phrase, or clause that interrupts the clause.

The report, after being read aloud, was put up for consideration.

The analysis, as far as I know, contained no errors.

(5) Phrases beginning with the prepositions *as well as*, *together with*, *along with*, *in addition to*, and *accompanied by* should be separated by commas when they fall between the subject and verb. Such phrases are not part of the grammatical subject.

The governor, as well as his press secretary, was shot.

(6) When two or more complementary or antithetical phrases refer to a single word following, the phrases should be separated from one another and from the following word by commas.

A similar, but even more striking, difference in the gas exchange level was observed in experiments with grass carp.

The most provocative, if not the most important, part of the statement came last.

We had hoped that the mayor himself, not his assistant, would be present.

3.4.5 Use commas both before and after nonrestrictive clauses and phrases. Do not use commas before or after restrictive clauses or phrases when they fall within the main clause or follow the main clause. A restrictive clause or phrase is necessary to complete the meaning of the sentence. A nonrestrictive clause or phrase provides additional descriptive or explanatory detail, but could be omitted without changing the meaning of the sentence.

The products that were produced at high temperatures were unstable. [*restrictive*: This sentence implies that specifically only those products produced at high temperatures were unstable; there may have been others that were stable. This is specific information that is part of the subject and therefore must be “restricted” to the subject, that is, not separated from it by a comma.]

The products, which were produced at high temperatures, were unstable. [*nonrestrictive*: This sentence gives additional information about the products referred to here, that they were produced at high temperatures.]

The report that the committee submitted was well documented. [*restrictive*]

The June financial report, which was well documented, was discussed in great detail. [*nonrestrictive*]

Mr. Jones, sitting comfortably before the fire, slowly and ceremoniously opened his mail. [*nonrestrictive*]

The elderly woman sitting beside Mr. Jones was his nurse. [*restrictive*]

Tom was astonished when he heard the terms. [*restrictive*]

Tom will meet Mike at 7 p.m., when the train arrives. [*nonrestrictive*]

I plan to visit the town where I used to live. [*restrictive*]

I plan to stop off in St. Louis, where I used to live. [*nonrestrictive*]

The figures for last year cover urban areas only, whereas those for this year include rural areas as well. [*nonr.*]

The union has decided not to strike while negotiations are still going on. [*restrictive*]

In 1998–1999, we observed a significant reduction of the river area occupied by young salmon.
[*restrictive*: This refers to specific area of the river occupied by young salmon]

In 1998–1999, we observed a significant reduction of the river area, occupied by young salmon.
[*nonrestrictive*: Additional information about the river is given, that it was occupied by young salmon.]

3.4.6 Use a comma before, but not after, the subordinating conjunction (*as, while, since, although, because, whereas*) in a nonrestrictive clause. Do not use a comma after a subordinating or coordinating conjunction unless an interrupting element appears.

Incorrect

The bryopyran ring system is a unique requirement for anticancer activity, whereas, the ester substituents influence the degree of cytotoxicity.

Correct

The bryopyran ring system is a unique requirement for anticancer activity, whereas the ester substituents influence the degree of cytotoxicity.

3.4.7 Do not use a comma before *and, or, or nor* as part of a compound predicate unless one is needed for clarity.

Incorrect: The reversal of the central-field polarity could also take place on Mercury, and lead to the formation of variously oriented local fields.

Correct: The reversal of the central-field polarity could also take place on Mercury and lead to the formation of variously oriented local fields.

Incorrect: Discussions were held in Moscow on July 12, and in Washington on July 17.

Correct: Discussions were held in Moscow on July 12 and in Washington on July 17.

Do not use a comma to divide compound phrases of the type *either ... or, neither ... nor, both ... and, between ... and, and from ... to*.

Incorrect: These reflectors are used both for measuring the lengths of the optical paths, and for measuring the bare length.

Correct: These reflectors are used both for measuring the lengths of the optical paths and for measuring the bare length.

3.4.8 In a series containing three or more items, use a comma before *and* and *or*. Note that translators sometimes incorrectly omit *and* in a series when it is not in the Russian original.

The reaction produced water, carbon dioxide, and hydrogen.

The equation for this system is $F = pVT$, where p is pressure, V is volume, and T is temperature.

3.4.9 Use commas to set off transitional adverbs and expressions (like *however, therefore, consequently, thus, nevertheless, finally, on the contrary, on the other hand, in particular, in addition, as a rule*) and expressions that introduce an illustration or example (like *for example (e.g.), that is (i.e.), namely*). When such words and phrases are used as conjunctive adverbs, connecting two independent clauses, they should be preceded by a semicolon (see Section 3.5.2).

This method fails, however, when the pressure drop is nonlinear.

He will travel through two countries, namely, France and England.

Many neural networks, for example, the Hopfield networks, tend to stabilize at the local energy minimum.

For transitional adverbs and expressions that are embedded in the sentence, the commas around them may be omitted if there is no distinct break in thought.

It is critical, therefore, that we reexamine these cost estimates. (*distinct break in thought*)
It is therefore critical that we reexamine these cost estimates. (*spoken with rising voice*)

When transitional adverbs and phrases precede the second part of a compound predicate, they are treated as interrupting expressions and are set off by two commas.

A mechanism should exist in the network that, on one hand, can control the competition of hypotheses and, on the other hand, can adaptively control the redistribution of the magnitudes of stimulation and retardation.

3.4.10 Use a comma to introduce direct questions or quotations, but if the quotation is used as a subject, predicate nominative, or predicate adjective, or if it is not being presented as actual dialogue, a comma is not used. Note that, if the quotation is a sentence, it ordinarily begins with a capital letter; if it is a fragment, it does not. However, a colon is used to introduce a formal statement, extract, or speech in dialogue (generally more than one sentence).

Mary said, "I am leaving."
"The computer is down" was the reply he feared.
We quote from the address: "It now seems appropriate ...

3.4.11 In order to avoid ambiguity, use a comma to indicate the omission of a word or words, and especially a word or words used earlier in the sentence. However, this construction is often difficult to read and should be avoided in the main text. If the meaning is clear without a comma, do not use one. Never use an em dash (as is done in Russian text) in this construction.

Correct

Common stocks are preferred by some investors; bonds, by others.

Better

Some investors preferred common stocks, and others preferred bonds.

Correct

One committee member was from Ohio, another from Pennsylvania, and a third from Oregon.

Incorrect: Hornblende is indicated by black triangles; mica—by white circles. [Russian punctuation carried over from translation.]

Correct: Hornblende is indicated by black triangles; mica, by white circles.

3.4.12 Do not use a comma to represent a decimal point (translators often make this mistake).

3.4.13 In names in text, use a comma before and after *Jr.* and *Sr.*, but not *II* or *III*.

Martin Luther King, Jr.

Nicholas II

W.A. Goddard III

In references, such names are formatted as follows:

King, M.L., Jr.,

Goddard, W.A. III,

3.4.14 Set off *etc.* with commas when it is used in running text.

The trucks deliver milk, eggs, cheese, etc., fresh daily.

3.4.15 Dates should be written in the order month, day, year. If the day is not given, do not use a comma between the month and year. If the day is given, use a comma before the year, as well as

after the year within a sentence. The month may be abbreviated for space considerations in tables and figures; see Section 5.10 for the correct abbreviations.

June 1984 (*not* June, 1984 *or* June of 1984)

June 15, 1984 (*not* 15 June 1984)

June 15 (*not* June 15th)

July 4, 1996 (*not* July 04, 1996)

The first litter appeared on March 5, 1995, in animals that had just started to darken.

In a table: Feb. 1–9 (*not* 1. II–9. II)

Sept. 20, 1992 (*not* 20.09.92)

If table space is insufficient, military style date
may be used: 20 Sep 92

(first three letters of month without period)

3.4.16 Use commas to set off individual elements in addresses and names of geographical locations or political divisions.

Meetings will take place in St. Louis, Missouri, and Atlanta, Georgia.

The Shirshov Institute of Oceanology, Russian Academy of Sciences, will host the next annual conference.

3.4.17 Generally, do not use a comma to set off symbols, formulas, or variables. However, if the variable is long or the sentence is complex, it may be necessary to set off the variable for clarity.

Incorrect

Consequently, the radiation with energy, x , was produced at the laser output.

Correct

Consequently, the radiation with energy x was produced at the laser output.

Also correct

The Gibbs free energy of formation of silicon dioxide under these conditions, $\Delta_f G$, ...

Note: For use of commas in chemical names, see Chemical Names and Symbols (Chapter 8).

3.4.18 A word, phrase, or clause that is in apposition to a noun is usually set off by commas, although dashes or parentheses are occasionally used instead.

Nelson, our commander, decided against the plan.

However, if the appositive is restrictive, it is not set off by commas.

Holly's brother Jack was on time, but her brother Paul was late.

3.5 Semicolon

3.5.1 Use a semicolon to separate independent clauses if no conjunction is used.

Incorrect

All solvents were distilled from an appropriate drying agent, tetrahydrofuran and diethyl ether were also pretreated with activity I alumina.

Correct

All solvents were distilled from an appropriate drying agent; tetrahydrofuran and diethyl ether were also pretreated with activity I alumina.

3.5.2. A semicolon should be used between independent clauses joined by conjunctive adverbs such as *that is (i.e.)*, *for example (e.g.)*, *however*, *therefore*, *consequently*, *furthermore*, *then*, and *thus*. A comma should follow the conjunctive adverb in this situation.

The proposed intermediate is not easily accessible; therefore, the final product is observed initially.

Note: The subsequent independent clause may also be set off as a separate sentence (with the exception of the Latin abbreviations *i.e.* and *e.g.*

We will assume that the law $\mathbf{j} = \sigma \cdot \mathbf{E}$ is valid in the plasma; that is, the length to which the pulse is transmitted by an electron is much less than the characteristic size of the system.

We will assume that the law $\mathbf{j} = \sigma \cdot \mathbf{E}$ is valid in the plasma. That is, the length to which the pulse is transmitted by an electron is much less than the characteristic size of the system.

3.5.3 Do not use a semicolon between dependent and independent clauses.

Incorrect

The activity on bromopyruvate was decreased; whereas the activity on pyruvate was enhanced.

Correct

The activity on bromopyruvate was decreased, whereas the activity on pyruvate was enhanced.

3.5.4. Use semicolons between three or more items in a series if at least one of the items already contains internal punctuation.

By the middle of next year, we will open new offices in Orlando, Florida; Phoenix, Arizona; and Columbus, Ohio.

This rule holds even if the only group containing the commas is the last in the series.

The compounds studied were methyl ethyl ketone; sodium benzoate; and acetic, benzoic, and cinnamic acids.

3.6 Colon

3.6.1 Do not use a colon in a sentence unless the sentence is grammatically complete to that point. Specifically, do not place a colon between a verb and its object, a preposition and its object, or before a restrictive element in a sentence.

The colons in the following sentences are *incorrect* and should be deleted:

The set of china includes: 12 dinner plates, 12 salad plates, and 12 cups and saucers.

The panel consists of: J.R. Smith, T.J. Jones, and A.K. Walker.

Equation (3) can be expressed in the form: $y = a + bx + cx^2$, where a , b , and c are coefficients.

3.6.2 Use a colon to separate titles and subtitles. In Russian titles, a period is often used, but a colon should be used in translated titles.

The Tragic Dynasty: A History of the Romanovs

Use the following format for numbered subtitles: *Title: 2. Subtitle* not (*Title. 2. Subtitle*)

Petroleum-Degrading Microorganisms: 1. A Selection of Microorganisms Capable of Degrading Petroleum Products at Low Temperature

(not)

Petroleum-Degrading Microorganisms. 1. A Selection of Microorganisms Capable of Degrading Petroleum Products at Low Temperature

3.6.3 Use a colon to introduce a word, phrase, complete sentence, or several complete sentences that illustrate, clarify, or expand upon the preceding information.

The book was poorly written: it lacked both unity and coherence.

We now report a preliminary finding: no chemical shift changes were detected in the concentration range 0.1–10 M.

3.6.4 If the word following the colon introduces a complete sentence, it may be either lowercased or capitalized; while the former is the more common usage, the latter can be used when the sentence introduced by the colon is fairly lengthy and distinctly separate from the preceding clause. If more than one sentence applies to the colon, then the word following the colon should be capitalized.

3.6.5 A colon is commonly used to introduce a list or series. If the series is made up of complete sentences, capitalize the first word of each sentence and end it with a period. If the series is made up of phrases or fragments, the first word should be lowercased (unless it is a proper noun) and the parts of the series should be separated by a comma or semicolon. When a list made up of complete sentences is blocked beneath running text, the first words should be capitalized and the last words terminated with a period. If blocked text is made up of sentence fragments, the first words may be either lowercased or capitalized.

Our conclusions are the following: Wide-angle x-ray scattering studies give us an accurate picture of structures up to 9 Å. Such studies do not permit the specification of defects, such as random ruptures of chains. The structural models defined are strongly supported by magnetic measurements.

The electron density was studied for the ground state of three groups of molecules: (1) methane–methanol–carbon dioxide, (2) water–hydrogen peroxide, and (3) ferrous oxide–ferric oxide.

The different statistical methods satisfy the following criteria:

The limit must be at least a 95% C.L. and come close to the desired 5% false exclusion rate of the Higgs boson hypothesis.

The order in which various channels are combined must not change the final limit.

The expected limit from combining two channels must exceed the limit from any single channel.

3.6.6 Use a colon in biblical citations and in expressions of ratio and time.

John 4:10

8:30 a.m.

a ratio of 3 : 5

Note: A colon used to indicate a ratio is preceded and followed by a space.

3.6.7 If a list or series is introduced by such expressions as *namely*, *for instance*, *for example*, *that is*, or *note*, a colon may be used if the series consists of one or more grammatically complete (independent) clauses. In this case, the items of the series should be treated as complete sentences.

Because of supersymmetry, it has some further special properties, whose significance will

become clear later. Namely:

- (1) It is invariant under a Z_4 symmetry.
- (2) It has a holomorphic structure.
- (3) It has a duality that connects the weak and strong coupling regimes.
- (4) The duality generalizes to an $SL(2, Z)$ symmetry.

3.7 Parentheses and Brackets

3.7.1 In correct usage, a parenthetical expression contains information that is subsidiary to the point that the sentence is making. The sentence does not depend on the information within the parentheses.

Thus, water-soluble complexes containing more than a threefold excess of polycation chain units (compared to negatively charged protein groups) have been found and studied.

Note: No punctuation mark should be placed directly before parenthetical material; if a break is required, the punctuation should be placed after the final parenthesis.

New social indicators of regional development (i.e., employment and the number, diversity and quality of jobs available), in addition to a thorough study of the present indicators, will be needed.

A mechanism involving the loss of a CH radical was proposed (see Fig. 1).

3.7.2 The parenthetical expression needs neither capitalization nor a final period, but may have a question mark, an exclamation point, a set of quotation marks, or a period after an abbreviation.

Years ago, someone (who was it?) told me about it.

Note: It is preferable not to use parenthetical expressions as isolated sentences. When this construction cannot be avoided, capitalize the first word and place the final punctuation within the parentheses.

The data are inconclusive. (Some researchers claimed a deviation in amounts of reaction products, but they were unable to duplicate the results in experiment.)

3.7.3 A combination of parentheses and dashes may be used to set off two parenthetical elements, one of which contains the other:

He had forgotten what caused their quarrel—something about the will, he suspected (it certainly wouldn't be surprising!)—but he knew that they hadn't spoken since.

3.7.4. Use a pair of parentheses to enumerate in running text. Do not use a hyphen or en dash after the number. These rules apply as well to figure captions and other parts of the text.

Three applications of this reaction are possible: (1) isomerization of sterically hindered aryl radicals, (2) enol-keto transformation, and (3) sigmatropic hydrogen shift.

For blocked text, either a pair of parentheses or a period following the number without parentheses is acceptable. The first words may be lowercased if no items contain complete sentences.

The following parameters were used

The following parameters were used

to assess the vertical deformations:

(1) The relative change in height of the *i*th rod and that of the reference rod as compared to the initial position of the rods;

(2) The difference between the level of the soil surface at the *i*th rod and that at the reference rod;

(3) The relative change in the level of the soil surface at the *i*th rod.

to assess the vertical deformations:

1. The relative change in height of the *i*th rod and that of the reference rod as compared to the initial position of the rods;

2. The difference between the level of the soil surface at the *i*th rod and that at the reference rod;

3. The relative change in the level of the soil surface at the *i*th rod.

3.7.5 Use parentheses to enclose abbreviations that occur after their spelled-out form.

a ruling by the Federal Communications Commission (FCC)
the manufacture and disposal of polyvinyl chloride (PVC)

3.7.6 Use parentheses to identify the trademark and manufacturer of reagents and equipment.

cobalt chloride (Mallinckrodt)
a pH meter with a glass electrode (Corning)

3.7.7 Use parentheses without a space next to a function with its argument.

$\exp(-x)$

3.7.8 Use parentheses when citing an equation or formula in text. Keep the parentheses intact in multiple citations.

This theory is proven by (5)–(7).

Taking into account (7), we have the following expression:

and

The equality of expressions (6)–(8) for atoms with ground state momentum ...

not

The equality of expression (6–8) for atoms with ground state momentum ...

3.7.9 In a figure caption, letters or numbers identifying panels of the figure or items within the figure should be in parentheses. In the figure itself, letters designating panels of the figure (but not items within the figure) should also be in parentheses, i.e., (a), (b), etc.

Fig. 1. Absorption spectra of (1) pure alkali–calcium silicate glasses and (2) the same glasses activated with 0.2 mol % Eu_2O_3 . (3) Difference spectra of curves 1 and 2 for glasses with (a) sodium and (b) lithium as modifier.

Note how curves, spectra, etc., are treated in captions when specifically referred to as such. Also, note that parentheses are not used to refer to a panel of a figure or an item within a figure, chart, graph, photograph, etc., within text.

As can be seen from Figs. 2a–2c, this process leads to increasing instability.

Curve 1 shows the transition most clearly. [In the Word text: Curve @1 shows the transition most clearly.]

This transition is shown in Fig. 1a (curve 1). [In the Word text: This transition is shown in Fig.1a (curve @1).]

3.7.10 Use square brackets within quotation marks to indicate material that is not part of a direct quotation.

In the words of Sir William Lawrence Bragg, “The important thing in [physical] science is not so much to obtain new facts as to discover new ways of thinking about them.”

Note: Do not enclose ellipses in brackets.

3.8 Hyphens

3.8.1. Do not hyphenate most prefixes added to common nouns, even if a double letter results (except for prefixes resulting in double *a* or *i*, which are usually hyphenated). Note that most prefixes and suffixes are hyphenated when added to foreign words. The following prefixes are usually not hyphenated when added to common nouns; do not hyphenate with these prefixes unless the word is listed among the exceptions below or you find that the hyphenated version is preferred by *Webster’s* (British English uses far more hyphenation than American English). Pay attention to inconsistencies in this regard when you edit.

after	electro	mini	semi
ante	extra	mono	stereo
anti	hyper	multi	sub
auto	hypo	non	super
bi	infra	over	supra
bio	inter	photo	trans
chemico	intra	physico	tri
chemo	iso	poly	ultra
co	macro	post	un
counter	magneto	pre	under
de	metallo	pro	up
di	micro	pseudo	visco
down	mid	re	

Examples

antibacterial	hyperinflation	overregulate	pseudoscience
biannual	infrastructure	photosensitive	reevaluate
biochemical	interrepublican	physicochemical	semiannual
cooperation	microorganism	postexperimental	
electroosmosis	nonnative	precooled	

Exceptions

anti-infective	intra-arterial	multi-institutional	semi-indirect
de-emphasize	mid-life	semi-antique	ultra-abyssal
de-escalate	multi-industry	semi-independent	

Most compound nouns ending in *down*, *out*, *over*, *back*, *away*, *about*, *around*, and *by*, as well as many compound nouns ending in *up* and *off*, are not hyphenated. Compound nouns ending in *in* and *on* are typically hyphenated.

backup	carryover	runaround	check-in
breakdown	setback	standby	put-on
fallout	breakaway		
payoff	turnabout		

Note: If omitting the hyphen and closing up would change the meaning of the words, use a hyphen (e.g., *re-cover* and *recover*; *un-ionize* and *unionize*).

3.8.2 Do not hyphenate a common noun of less than three syllables when it is combined with the suffix *-like*, unless the noun ends in an *l*. Do hyphenate words of three or more syllables, as well as chemical and mineral names and symbols, when combined with *-like*.

perovskite-like graphite-like metal-like x-like *but* slitlike gridlike

3.8.3 Hyphenate the suffix *-fold* to a numeral, but not to a word.

25-fold *but* fivefold multifold severalfold

3.8.4 Hyphenate with the prefixes *self-* and *quasi-*.

self-confident self-hater quasi-equilibrium

However, in the case of *quasi-*, exceptions to this rule exist with respect to accepted terminology. Commonly met deviations from this rule should be in the respective journal appendixes.

quasiparticle quasicrystalline

3.8.5 Do not hyphenate a common noun and the suffixes *-wide*, *-wise*, *-worthy*, *-proof*, and *-long*.

worldwide piecewise trustworthy fireproof daylong

3.8.6 Do not hyphenate a directional word unless it is made up of more than two directional words.

northwest *but* north-northwest

3.8.7 Hyphenate prefixes and suffixes added to proper nouns, and retain the capital letter.

non-Freudian Kennedy-like anti-American

3.8.8 Hyphenate a prefix to a chemical name.

non-hydrogen bonding non-phenyl atoms

3.8.9 Hyphens with symbols should be used only when they form unit modifiers.

x rays *but* x-ray analysis *B* meson *but* *B*-meson decay
z axis *but* z-axis orientation *d* orbital σ bond

3.8.10 Hyphenate written-out compound numbers between twenty-one and ninety-nine (see Numeral Usage for when to write numbers out). The same applies to ordinal numbers. Hyphenate written-out fractions: one-half two-thirds three-fourths one-tenth nine-sixteenths

3.8.11 Compound words are two or more terms used to express a single idea and are listed in *Webster's*. Such compounds forming nouns are frequently not hyphenated, while those forming adjectives are hyphenated. This aspect of English is one of the most rapidly changing, especially as

it concerns scientific vocabulary: check the journal's appendix and consult the scientific editor for exceptions and changes.

son-in-law over-the-counter

Watch out for unnecessary hyphenation of two nouns not used as a unit modifier (i.e., as an adjective). Hyphenation is a device used in Russian to avoid declining the first word.

Интернет-кафе = Internet café ток-шоу = talk show Солт-Лейк-Сити = Salt Lake City

3.8.12 If a prefix or suffix is added to a compound, hyphenate it.

non-radiation-caused effects pseudo-first-order reactionquasi-steady-state system

3.8.13 For use of hyphens in chemical names, see Chemical Names and Symbols.

3.8.14 Do not hyphenate ordinals.

<i>not</i>	3-rd	<i>but</i>	3rd
<i>not</i>	<i>i</i> -th	<i>but</i>	<i>ith</i>

3.8.15 Use a hyphen to link compound family names and compound company names accepted as units (compare 3.10.6).

Lennard-Jones	Petrov-Vodkin	Levi-Civita
McGraw-Hill	Perkin-Elmer	Addison-Wesley

3.9 Hyphenation of Unit Modifiers

3.9.1 Hyphenate unit modifiers in order to avoid ambiguity. Unit modifiers are two or more words used as an adjective. They may consist of any of the following:

adjective + noun:	high-speed printers	long-term bonds	a part-time job
noun + adjective:	age-old problem	tax-exempt status	ice-cold water
noun + participle:	law-abiding citizen	interest-bearing account	pear-shaped drop
adjective + participle:	high-ranking official	smooth-talking operator	half-baked idea
adj. + noun + <i>ed</i> :	flat-footed player	full-bodied brew	medium-sized room
adverb + participle:	well-known method	ever-changing winds	much-needed hit
participle + adverb:	worn-out equipment	scaled-down proposal	cooling-off phase
number + unit of measure:	25-g sample	5-cm thickness	2.5-ms delay
number + unit of measure + word:		3-year-old child	4-mm-thick layer
phrasal compound:	up-to-date figures	step-by-step directions	would-be expert

Note: A number of adjective–noun combinations (such as *real estate*) and noun–noun combinations (such as *life insurance*) are actually well-established compound nouns serving as

adjectives. Since such expressions refer to well-known concepts or institutions and are easily grasped as a unit, they do not require a hyphen.

social security number life insurance policy nuclear energy plan real estate tax

Note: Individual journals may elect not to hyphenate unit modifiers consisting of a number and an abbreviated unit of measure:

5 nm spacing 2500 Å wavelength 557.7 nm emission at 60 km altitude

Consult the given journal's appendix for specific cases.

3.9.2 Hyphenate unit modifiers used as predicate adjectives. In general, only unit modifiers that consist of nouns and adjectives can be used as predicate adjectives.

In these cluster reactions, dehydrogenation is size-dependent.
The reaction is first-order.

3.9.3. Do not hyphenate unit modifiers in the following instances:

(1) if the first word is an adverb ending in *-ly* or *very*;

recently developed procedure a very well studied hypothesis

(2) if the unit modifier is a chemical name;

barium sulfate precipitate sodium hydroxide solution

(3) if it is a color combination where the first one modifies the second;

bluish green tint dark red car coal black surface

Note: do hyphenate when two colors are of equal value:

blue-green algae red-green color blindness yellow-green solution

(4) if one or more words in the unit modifier are a proper name;

Lewis acid catalysis Monte Carlo method Eastern European politics

Note: a suffix to a proper name should be hyphenated:

Schottky-type defects Moscow-like prices

(5) if the first word in the unit modifier is a comparative or superlative.

higher temperature reactions lowest frequency wavelengths

3.9.4 Do not hyphenate foreign phrases used as adjectives.

in vivo reactions ad hoc committee in situ evaluation

3.10 En Dashes

An en dash is twice as long as a hyphen and received its name from being the width of a typewritten letter *n*. It is referred to in Russian as a “тире.” At the first stage, it is designated by two hyphens, i.e., --.

3.10.1 Use an en dash without spaces to mean *to* or *through* with a span of numerals.

3–4 h Monday–Friday Figs. 1–4 5–50 kg pp. 1759–1760

3.10.2 Do not use an en dash when the words *from* or *between* are used. Also, avoid use of an en dash for a range of numbers expressed as words.

from 500 to 600 ml five or six samples (*instead of* five–six samples)
between 7 and 10 days four to seven days (*instead of* four–seven days)

3.10.3 Do not use an en dash between two or more unit modifiers having the same base and a hyphen after each element; use *to* or another linking word or symbol.

25- to 50-mg samples (*not* 25–50-mg samples)
0.5- to 10-cm tube (*not* 0.5–10-cm tube)
high-, medium-, and low-frequency measurements

Note: The following is acceptable with abbreviated units of measure.

25–50 mg samples a 0.5–10 cm tube

3.10.4 Do not use an en dash between two negative quantities or between a negative and positive quantity; use *to*, or *from* and *to*, instead. Do not use an ellipsis.

–10 to –50°C (*not* –10...–50°C) from –50 to –25°C –10 to +10°C

3.10.5 Use an en dash to mean the equivalent of *and* or *to* in two-unit concepts, or when the preposition is omitted.

structure–activity relationships oxidation–reduction potential
cis–trans isomerization nickel–cadmium battery
water–acetone solution water–ethyl alcohol solution

3.10.6 Use an en dash to link the names of two people.

Jahn–Teller effect Lineweaver–Burk
Stern–Volmer plot Beer–Lambert law

3.10.7 Use an en dash to indicate a chemical bond.

hydrogen–hydrogen bond

3.10.8 Use an en dash for negative numbers and as a minus sign.

3.10.9 Use an en dash when adding a prefix or suffix to more than one word, i.e., to an open compound (see also 3.9.3, 8.12).

pre–World War II history copper oxide–based solution

3.11 Em Dashes

An em dash is three times as long as a hyphen and received its name from being the width of a typewritten letter *m*. It is referred to in Russian as a “длинное тире.” At the first stage, it is designated by three hyphens, i.e., ---.

3.11.1 The em dash usually marks an abrupt change or break in the continuity of a sentence.

When in 1960 the stockpile was sold off—indeed dumped as a surplus—natural rubber sales were hard hit.

3.11.2 The em dash introduces a summary statement that follows a series of words or phrases.

Oil, steel, and wheat—these are the sinews of industrialization.

3.11.3 Use em dashes to set off words that could be otherwise misread.

Incorrect

All three experimental parameters, temperature, time, and concentration were strictly followed.

Correct

All three experimental parameters—temperature, time, and concentration—were strictly followed.

3.11.4 The em dash is used between the word *Abstract* and the beginning of the text of the abstract.

3.11.5 It is not recommended to use em dashes to separate phrases or nonrestrictive clauses if another form of punctuation can be used.

Incorrect

The singly charged complexes—which constituted bands 1 and 3—liberated maleate anion upon decomposition.

Correct

The singly charged complexes, which constituted bands 1 and 3, liberated maleate anion upon decomposition.

3.12 Quotation Marks

3.12.1 Quotation marks should be used for new words, words used in a new sense (such as technical terms used in a nonstandard sense), or words not used literally. Generally, use quotation marks only the first time the word appears in the text. Occasionally, it may be necessary to repeat the quotation marks throughout the text. Russian authors tend to use this punctuation more than Americans; you should discuss specific cases with the scientific editor and try to minimize the use of this awkward construction.

Plastocyanin is a soluble “blue” copper protein.

The integrated intensity of each diagonal in the spectrum is proportional to a “mixing coefficient.”

3.12.2 Use quotation marks to enclose short direct quotations.

In the book *Megatrends*, Naisbitt concludes that “We are moving from the specialist who is soon obsolete to the generalist who can adapt.”

3.12.3 At the first stage, longer quotations (extracts) of 50 words or more should be enclosed in braces and marked before and after with @ to indicate that they should be indented.

The American physicist Richard Feynman has already made this argument in his book *How Atoms Affect You*:
@{Everything is made of atoms. That is the key hypothesis. The most important hypothesis in all of biology, for example, is that everything that animals do, atoms do. In other words, there is nothing that living things do that cannot be understood from the point of view that they are made of atoms acting according to the laws of physics.}@

3.12.4 In text, use quotation marks to enclose titles of poems, short stories, articles, lectures and papers read at meetings, dissertations and theses, manuscripts in collections, chapters of books, short musical compositions, and radio and TV programs (see also 3.17.2; References). Do not use quotation marks for names of laws, resolutions, and decrees (see also 4.3).

3.12.5 The official title of a conference is not enclosed in quotation marks:

4th International Conference on Fluidization

However, a substantive title given to a conference is enclosed in quotation marks:

“Dynamics of Heavy-Ion Collisions,” an international symposium on nuclear physics

3.12.6. The period and comma always fall within quotation marks (unlike in Russian). The colon and semicolon always fall outside quotation marks.

3.12.7 The following changes to direct quotations are permissible if necessary to ensure that a quoted passage fits smoothly into the text: (1) the initial letter may be changed to a capital or lowercase letter; (2) the final punctuation mark may be changed, and punctuation marks may be omitted where ellipsis points are used.

3.12.8 When a quotation is used as a syntactic part of a sentence, it may begin with a lowercase letter, even though the original is a complete sentence beginning with a capital letter; however, if the quotation is not syntactically dependent on the rest of the sentence, the initial letter is capitalized.

Grandmother remarked that “a stitch in time saves nine.”
As Grandmother often said, “A stitch in time saves nine.”

3.12.9 Dashes, question marks, and exclamation points fall within quotation marks when they refer to the quoted matter only; they fall outside when they refer to the entire sentence.

The economist’s angry retort is likely to be, “What do you mean? How can a policy work for the market?”
What is the meaning of a “market economy”?

3.12.10 When quoted material was originally written in English, the original source should always be consulted. In no case should the English quote be retranslated from the Russian translation.

3.12.11. Do not put the names of companies, organizations, or brand names in quotation marks. Rather, they should simply be capitalized.

NPO Plastmassy (*not* NPO “Plastmassy”)

Vostok Marine Biological Station (*not* “Vostok” Marine Biological Station)

a Spektr M-360 gas spectrometer (*not* a “Spektr” M-360 gas spectrometer)

Note: Commercial names of Russian companies should be transliterated, not translated. However, a few Russian companies have become well known in the West under a translated name: Norilsk Nickel, Unified Energy Systems (UES), Rostelecom.

3.13 Single Quotation Marks

3.13.1 Use single quotation marks to indicate quoted material that falls within double quotation marks. When both single and double quotation marks occur at the end of a sentence, the period typically falls within both sets of marks.

The witness said, "I distinctly heard him say 'Don't be late.'"

3.13.2 Philosophical and theological terms should be placed in single quotation marks. In such cases, all punctuation, including commas and periods, should be placed outside the quotation marks.

If such a procedure is justifiable, 'agrees with' must carry the sense of 'is consistent with'.

3.14 Ellipsis

3.14.1 In the Word text, use @ to indicate an ellipsis. Do not use three periods. It is the practice of our journals not to put a space between an ellipsis and a following comma or a final period.

1, 2, 3, 4 *not* 1, 2, 3, 4

3.14.2 Within a quotation, use an ellipsis to indicate deleted words or phrases. The ellipsis points are used in addition to other needed punctuation. Thus, if a period is contained on either side of or within the omitted passage, the result will be four dots. Each portion of text on either side of the ellipsis should be functionally a sentence. Do not enclose ellipses in brackets.

No science is immune to the infection of politics and the corruption of power The time has come to consider how we might bring about a separation, as complete as possible, between science and government in all countries.

Retain punctuation around ellipses if it helps to retain the sense of the passage.

The sound of the cornet, flute, ... and all kinds of music ... [comma indicates continuation of list]

3.15 Solidus (or Slash)

3.15.1 The solidus may be used as a symbol for *per* in abbreviated units of measure.

10 kg/cm² 2 m/s kg/(m² s K)

3.15.2 The solidus may be used for electrode pairs, supported systems, heterostructures, systems of impurities, etc. In general, use a solidus to indicate an item that is not a mixture, but a heterogeneous structure, e.g., a binary or multicomponent system, an interface, or a local heterogeneity.

Ag/AgCl electrode

Pt/SiO₂ catalyst

Si/SiO₂ semiconductor

Pt/Pt–Rh thermocouple

M^{q+}/A_nB_m (system of impurities)

3.15.3 Avoid using a solidus between words in text.

Incorrect

Hot/cold extremes will damage the samples.

Correct

Hot and cold extremes will damage the samples.

but

The on/off switch was replaced.

Note: *and/or* constitutes acceptable usage in text.

3.16 Spacing

3.16.1 Leave one space after periods, question marks, exclamation points, colons, semicolons, and commas.

3.16.2 Leave a space before and after arithmetic signs in equations (+, −, /, =, <, >, etc.). In sub- and superscripts, the space may be omitted. For charge numbers and arithmetic operators, the arithmetic sign should be closed up to the number. No space should be left before and after a slash (/) in equations.

≤ 2	~ 5	$-x$	$-a$	
$a + b$	$d < k$	$X = A/B$	$3 < 1011$	$\text{but } \text{Ca}^{2+} \text{ ions}$

3.16.3 Do not leave a space between a function and the parentheses of its argument, but leave spaces between arguments.

$x(y)$	$W(x, p)$	$W(x, p, t)$
--------	-----------	--------------

3.16.4 Leave a space between two units of measure, but not between a number and a symbol or symbols.

25 P s	or	7.9 W h	but	5xy 2t
--------	----	---------	-----	--------

3.16.5 In text and references, do not leave a space between initials of a person's name; leave one space between the final initial and the person's last name. When the name appears in the heading, there should be one space between the initials and one space between the last initial and the last name.

<i>In text</i>	In 1952, I met M.A. Dubinskii at Moscow State University.
<i>In references</i>	Boichenko, A.M., Derzhiev, V.I., and Yakovlenko, S.I.,
<i>In a main heading</i>	A. M. Boichenko, V. I. Derzhiev, and S. I. Yakovlenko

3.17 Italicization

Be aware that Russian writing makes far greater use of italicization than does English. Avoid using italicization in text except in the instances outlined below. Minimize the use of italicization for emphasis.

Note: For use of italics in references, see Chapter 10, References.

3.17.1 Translators and first-stage editors should indicate italicization, underlining, superscripting, subscripting, and bold type by placing @ before the item (and after it as well if the item consists of more than one unit). Thus, for

Russian Journal of Inorganic Chemistry

to appear in the final text, write

@Russian Journal of Inorganic Chemistry@

3.17.2 Italicize titles of books, journals, magazines, newspapers, plays, movies, works of art, and musical compositions, as well as specific names of ships, aircraft, and spacecraft (but not designations of class or make).

In previous articles of *Biophysics* it was shown that ...

The *Titanic* had been explored previously.

but

Saturn V rocket

Boeing 747

Note that conference titles should not be italicized in text. However, in references, a conference title is italicized, as is a book title.

3.17.3 Endings added to italicized words should be in roman type.

five *Moscow Tribunes* and two *Cosmopolitans*

Note that, at the first stage, the above should appear as follows:

five @Moscow Tribune@s and three @Cosmopolitan@s

3.17.4 Italicize words and letters when referred to as words and letters. Do not put them in quotation marks.

The word *receive* is often misspelled.

The g in align is silent.

3.17.5 Key terms in a discussion or technical terms (especially when accompanied by a definition) are often italicized on first use. Subsequently, they are set in roman type. For use of technical terms in nonstandard senses, see 3.12.1.

3.17.6 Italicize all variables, except when they represent vectors or are Greek or manuscript-style letters.

3.17.7 Foreign words and phrases that have not been naturalized in English are italicized. If a foreign word or phrase is in the main body of *Webster's*, it should not be italicized. No exception to this rule can be made in an individual journal appendix.

Note: This also applies to the Latin abbreviation et al. in references.

3.17.8 Latin scientific names of genera, species, subspecies, and varieties (but not groups of higher rank, such as phyla, classes, orders, or families) are italicized. The name of the person or persons

who proposed a specific or subspecific name is added in roman type and sometimes abbreviated. In the last example, the parentheses indicate that De Bary described the species but attributed it to a different genus.

a thick-shelled American clam (*Mercenaria mercenaria*)

but

the family Hominidae

Trogon collaris puella

Molossus coibensis J. A. Allen

Quercus alba L.

Aureobasidium pullulans (De Bary)

Other designations following generic, specific, or subspecific names are also set in roman type:

Viola sp.

Rosa rugosa var.

3.17.9 Italicize case titles in legal citations, both in full and shortened forms (*v.* for *versus*, however, is not italicized). Note that, in legal citations, *versus* is written as *v* in roman type.

Jones v. Massachusetts

The *Jones* case

Jones

3.17.10 Capitalize and italicize the words *proof* and *corollary* when they are not numbered and when they introduce a corresponding example. In text, do not italicize or capitalize.

3.17.11 Numbers or lowercase letters referring to items within a figure (lines, curves, or other parts) should be italicized both in the figure and in text. Thus, in text: See curve *I*. However, letters indicating a panel in a figure should be left in roman type (see also 1.11.2).

segment *a* of the chromosome shown in the figure

Fig. 1a

3.17.12 In italicized text, foreign words that are normally italicized should be written in roman type. However, conventionally italicized scientific words (e.g., genus and species) should always be italicized. For example, in a book title or a first- or second-level subheading, such words would appear as follows:

The Genome of Drosophila melanogaster

3.17.13 Indices should be in italics if they represent variables, axes, etc., and in roman if they represent abbreviations of words.

K_i ($i = 1, 2, \dots, 20$)

N_A (A here denotes Avogadro's number)

If unsure whether an index should be italicized, consult the journal's appendix or the chief translator.

3.18 Boldface

3.18.1 Never use bold type for emphasis.

3.18.2 *Definition* [#], *Theorem* [#], *Statement* [#], *Example* [#], and *Lemma* [#] appear in bold and should be marked with @ at first stage.

@Lemma 12@

@Theorem 11@

3.18.3 Roman numerals used to indicate chemical compounds should be marked with @ at first stage to indicate boldface type.

The effects of compounds @I–X were studied in rats.

4. CAPITALIZATION

4.1. In title capitalization (book titles, article titles, first-level subheadings), the first and last words and all nouns, pronouns, adjectives, verbs, adverbs, verbs, and subordinate conjunctions (*if, because, as, that, etc.*) are capitalized. Articles (*a, an, the*), coordinating conjunctions (*and, but, or, for, nor*), and prepositions, regardless of length, are not capitalized unless they are the first or last word of a title or subtitle. The word *to* in infinitives is also not capitalized unless it is the first or last word of a title or subtitle. For capitalization in lists of references, see Chapter 10, References.

How to Succeed in Business without Really Trying

Redevelopment Proposal Is Not Expected to Be Approved

A Home to Be Proud Of

Abraham Lincoln—The Early Years

The Treaty of Versailles: A Reexamination

Mapping of the Chromosome of Bacteria *Erwinia carotovora* ssp. *atroseptica* (see 4.19)

Note: For transliterated Russian titles, use Russian capitalization, which capitalizes only the first word and proper nouns. For other foreign language titles, follow the capitalization rules of that language. If you are not sure, look at the original Russian article.

4.2. For hyphenated compounds in titles, the first elements are always capitalized. Subsequent elements are capitalized unless they are articles, prepositions, coordinating conjunctions, or such modifiers as *flat, sharp, and natural* following musical symbols. Second elements attached by hyphens to prefixes are not capitalized unless they are proper nouns or proper adjectives. If a compound (other than one with a hyphenated prefix) comes at the end of the title, its final element, whatever part of speech it may be, is always capitalized. See examples below and examples of chemical names in Section 8.6.

Up-to-Date Methods

Run-of-the-Mill Day

On-the-Job Training

E-flat Minor

Non-Christian Religions

Semi-infinite Media

Strategies for Re-establishment

X-ray Spectroscopy

A Run-in with Authorities

Avoiding a Run-In

Russian-Speaking Population

Medium-Sized Libraries

Latin phrases in a title should be capitalized.

In Situ Measurements

A Priori Data

Post Facto Analysis

4.3 For names of laws, resolutions, and decrees, capitalize all words except conjunctions, articles, and prepositions (do not use quotation marks). Note that, in the following examples, the word *On* is capitalized because it is the first word of the name of the law or resolution.

The Resolution On the Status and Goals of the Russian Academy of Sciences under the Present Conditions was announced at yesterday's meeting.

The Law of the Russian Federation On the Fundamentals of the Russian Federation's Tax System states that ...

4.4 Do not capitalize the *r* in *x-ray*, even in titles and headings; the *x*, however, should be capitalized in titles and headings.

4.5 Capitalize such words as *figure*, *table*, and *chart* only when they refer to a specific numbered item. Thus,

Fig. 1 Chart IV Table 2
but
According to the chart on page 22 ...

4.6 Do not capitalize words such as *group*, *sample*, and *experiment*, even when they are used with numbers. Groups of the periodic table are exceptions to this rule.

samples 3–7 experiment 2 groups 5a–5d *but* Group IV

4.7 Capitalize parts of a book when they refer to a specific number. Also, capitalize parts of an article when they are cross-referenced within the article. However, lowercase parts of a book when they are named in passing references. The word *chapter* is lowercased and spelled out in text; it may be abbreviated in parenthetical references.

Appendix 1 chapter 3 (ch. 3)

See Materials and Methods for a description of the reaction conditions.
but
In the introduction to Ivanov's text

4.8 Do not capitalize the abbreviation for *page*, even with a number.

4.9 Software terms designating specific units are generally in full capitals, although exceptions with initial capitals only also exist.

BASIC FORTRAN COBOL Pascal Microsoft Word

4.10 The first word after a colon (1) may be capitalized if it is the first word of a complete sentence and (2) should be capitalized if the element following the colon consists of more than one sentence or if it is a formal statement, a quotation, or a speech in dialogue.

4.11 Full names of armies, navies, regiments, battalions, corps, etc., as well as of wars and battles, are capitalized. Such words are lowercased when they stand alone, are used collectively in the plural, or are not part of an official title.

United States Army	Allied armies	
Seventh Fleet	the fleet	
Royal Air Force	the British air force	
the Great Patriotic War	World War II	the war

4.12 The names of awards and prizes are capitalized, as are specific names of medals and military awards.

the Nobel Prize in medicine Nobel Peace Prize USSR State Prize

Medal of Honor

Congressional Medal

4.13 Derivatives and adjective forms of proper nouns are capitalized when used in their primary sense.

Avogadro's number

nuclear Overhauser–Hodgkin's disease

Gaussian

However, four kinds of name-derived nouns are always lowercased:

- (1) units of measure (*gauss*, *ampere*);
- (2) particles (*fermion*, *boson*);
- (3) elements (*einsteinium*);
- (4) minerals (*scheelite*, *fosterite*).

4.14 Words designating global, national, regional, or local political divisions are capitalized when they are essential elements of specific names; however, they are usually lowercased when they precede a proper name or stand alone.

the Russian Empire

but

the fall of an empire

Leningrad Soviet

but

a meeting of soviets

4.15 Capitalize the names of historical events, some historical periods, and some cultural and political movements. When in doubt, consult *Webster's* or the *Chicago Manual of Style*.

Capitalized

the Russian Revolution

Renaissance

the Yalta Conference

Not Capitalized

neoclassicism

socialism

age of reason

(Not) Capitalized Based on Context

prohibition

cold war

communism

4.16 Personal titles are capitalized when they immediately precede a personal name or names and lowercased when used alone, in general contexts, or in apposition to a name. Following a name or names, such titles are generally lowercased, but in formal usage, such as in the main heading of a translation, acknowledgments, or lists of contributors, they are usually capitalized.

General Eisenhower

the general

Mayors Hurley and Feinstein

the mayors of Springfield and San Francisco

Tsar Nicholas II

the tsar Nicholas II (the tsar who was Nicholas II)

President Gray

Hanna H. Gray, president of the University of Chicago

Corresponding Member A.A. Chernov

Corresponding Members A.A. Chernov and I.I. Ivanov

in a list of authors, etc.:

A.A. Chernov, Corresponding Member of the USSR Academy of Sciences

A.P. Kapitsa, Director of the Pacific Ocean Institute of Geology

in a general context:

A.A. Chernov, corresponding member of the USSR Academy of Sciences

A.P. Kapitsa, director of the Pacific Ocean Institute of Geology

All corresponding members were allowed to vote.

When Kapitsa became director of the Pacific Institute of Geology, he initiated reforms.

Always capitalize *Academy* when it refers to the Academy of Sciences; e.g., “All members of the Academy were present.”

Note: The names of academic degrees and honors should be capitalized when they follow a personal name, whether abbreviated or written in full:

Clyde M. Haverick, Doctor of Law John K. Follett, MD

However, when academic degrees are referred to by means of such general terms as *doctorate*, *doctoral*, *bachelor's*, *candidate's*, or *master of science*, they are not capitalized.

4.17 Names of planets and their satellites, asteroids, stars, constellations, galaxies, and other celestial objects are capitalized; however, the words *sun*, *earth*, and *moon* are usually lowercased unless they occur with other astronomical names. Also, note that generic terms forming part of a specific name are not capitalized.

the Milky Way Venus
Halley's comet the Andromeda galaxy

but Her eyes were blinded by the sun.

4.18 Geological eras, periods, epochs, strata, and names of prehistoric divisions are capitalized.

Silurian period Pleistocene epoch Neolithic age Cenozoic era

4.19 Capitalize genus names, but do not capitalize species names, even in titles. Capitalize names of groups higher than genus, but not those of subspecies and varieties.

Pneumococcus aureus *Siphonaria pectinata*
Novel Metabolites of *Bacillus subtilis*

However, do not capitalize the adjective or plural form of a genus name unless it is at the beginning of a sentence.

amoeba bacilli pneumococcal mastodon

4.20 Capitalize foreign and Latin words if they appear at the beginning of a sentence or in a title. If a word is normally italicized but not capitalized, do not capitalize it unless it is the first word of a sentence or title.

4.21 Nouns and adjectives designating geographical location are often, although not always, capitalized:

the East; the Far East *but* eastern Vermont
the Western world; the Midwest *but* western Russia; a midwesterner

as political or cultural divisions:

Western Europe; Central Europe; Eastern Europe; North Africa; Southeast Asia

as geographical locations:

western Europe; central Europe; eastern Europe; northern Africa; southeastern Asia

4.22 Names of topographical features are capitalized. Also, a generic term, such as *mountain*, *desert*, *river*, etc., used as part of a name is also capitalized.

the Rocky Mountains	the Painted Desert	the Amazon River	the Sea of Azov
North Pole	Western Hemisphere	Hudson River valley	the Arctic

When a generic term is used in the plural following more than one name, it is lowercased:

the Caspian and Mediterranean seas	the Sahara and Gobi deserts
------------------------------------	-----------------------------

When a generic term precedes more than one name, it is usually capitalized:

Lakes Michigan and Huron	Mounts McKinley and Washington
--------------------------	--------------------------------

When a generic term is used descriptively rather than as part of the name or is used alone, it is lowercased:

the valley of the Mississippi	the Mongolian desert	the Norwegian coast
-------------------------------	----------------------	---------------------

4.23 While terms such as *avenue*, *building*, *hotel*, *square*, *street*, etc., are capitalized when part of a specific name, they are lowercased when they stand alone or follow two or more proper names.

Fifth Avenue	Fifth and Seventh avenues
the Palace Hotel	the Palace and National hotels
Times Square	Washington and Rittenhouse squares

4.24 Full names of governmental and judicial bodies are generally capitalized, while adjectives or incomplete designations (except abbreviations) derived from them are usually not.

United Nations Security Council	the Security Council	the council	
Chicago City Council	city council	council	
General Assembly of Illinois	Illinois legislature	assembly	state legislature
State Duma	the Duma		
Department of State		State Department	the department
Agency for International Development		AID	the agency
Court of King's Bench	the court		
United States Supreme Court	the Supreme Court	the Court [only in this case is <i>court</i> capitalized when used alone]	

Words such as *administration*, *government*, *ministry*, *monarchy*, and *state* are not usually capitalized.

4.25 In transliterated Cyrillic, follow Russian capitalization. Pronouns, days of the week, months, and most proper adjectives are lowercased. Geographical designations are lowercased except when they apply to formal institutions or formal political units.

tverskoe zemstvo	russkie letchiki	moskovskie vechera
Tverskaya guberniya	Kaluga oblast	Moscow oblast

4.26 Titles transliterated from the Russian should be capitalized as in the original, i.e., only the first word and proper nouns should be capitalized. Journal titles are an exception to this rule; the capitalization used by *CASSI* should be followed (English-language title capitalization).

4.27 Full official names of associations, societies, meetings, conferences, etc., are capitalized. *A* the preceding a name is lowercased in text, even when it is part of the official title. Words such as *society*, *meeting*, *conference*, etc., are lowercased when used alone.

4th International Conference on Fluidization; the conference
 “Dynamics of Heavy-Ion Collisions,” an international symposium on nuclear physics

4.28 Full titles of institutions and companies and their departments and divisions are capitalized. In some cases, especially when they might be mistaken, shortened versions of those titles are also capitalized.

the University of Chicago the Department of History the Law School
 the Universities of Chicago and California Harvard and Northwestern Universities

5. ABBREVIATIONS

5.1 Use abbreviations and acronyms sparingly. If a very long name or term is repeated many times throughout a paper, an abbreviation is warranted. In such a case, place an abbreviation in parentheses following the spelled-out form the first time it appears in the text and use the abbreviation thereafter. Do not use the abbreviation first followed by the spelled-out form in parentheses. If an abbreviated term is used in the abstract, define it in the abstract and again in the text. Do not put spaces between the letters of abbreviations or acronyms.

According to the Food and Drug Administration (FDA) ...

5.2 Avoid abbreviations in the title of a paper unless they are used in the original or are commonly understood without explanation (e.g., DNA, NMR, IR, etc.)

5.3 Do not simply translate (or transliterate) Russian abbreviations and acronyms. In many cases, the English term must be written out entirely, or an acceptable English abbreviation must be used.

5.4 The following is an *incomplete* list of common abbreviations that are accepted and may be used in text without explanation. Other accepted abbreviations can be found in *Webster's*.

Note: Use **curl** instead of **rot**

ac	alternating current	Fig(s).	figure(s)
at wt	atomic weight	FM	frequency modulation
at %	atomic percent	fp	freezing point
bp	boiling point	gen	genus
ca.	circa	GLC	gas-liquid chromatography
CRT	cathode-ray tube	i.d.	inner diameter
dc	direct current	IR	infrared
DNA	deoxyribonucleic acid	M	molar (moles per liter)
e.g.	for example	mmf	magnetomotive force
emf	electromotive force	mmp	mixture melting point
Eq(s).	equation(s)	mol %	mole percent
equiv wt	equivalent weight	mp	melting point
ESR	electron-spin resonance	MM	molecular mass
fcc	face-centered cubic [lattice]	N	normal solution

NMR	nuclear magnetic resonance	st.	stock; street
o.d.	outer diameter	subg	subgenus
RF	radio frequency	UV	ultraviolet
rms	root-mean-square	USP	United States Pharmacopeia
RNA	ribonucleic acid	v.	versus (in legal citations)
sh.	sheet	var	variety
SNR	signal-to-noise ratio	vol	volume (amount)
sp	species	vol %	volume percent
sp ht	specific heat	vs.	versus (in general usage)
sp vol	specific volume	wt	weight
ssp	subspecies	wt %	weight percent

5.5 Below is a list of abbreviations of commonly used scientific units:

A	ampere	kcal	kilocalorie
Å	angstrom	keV	kiloelectronvolt
amu	atomic mass unit	kg	kilogram
atm	atmosphere	km	kilometer
au	atomic units	kV	kilovolt
b	barn	l	liter
bar	bar (pressure)	lm	lumen (luminous flux)
Bq	becquerel (activity)	lx	lux (illuminance)
C	coulomb (electric charge)	m	meter
cal	calorie	M	molar concentration
cd	candela	Ma	million years
Ci	curie (activity)	min	minute
cm	centimeter	ml	milliliter
conc	concentrated; concentration	mmHg	millimeter(s) of mercury (pressure)
cps	counts per second	mol	mole
°	degree (plane angle)	MT	metric ton
°C	degrees Celsius	mV	millivolt
°F	degrees Fahrenheit	mW	milliwatt
D	debye	MW	megawatt
dB	decibel	N	newton (force); normal concentration
dil	dilute; dilution	nm	nanometer
dm	decimeter	Oe	oersted
d	dyne	ppm	parts per million
emu	electromagnetic unit	Pa	pascal (pressure)
equiv	equivalent (e.g., g-equiv)	R	rayleigh
esu	electrostatic unit	R	roentgen
eV	electronvolt (energy)	R _E	Earth's radius
F	farad	rad	radian; rad (absorbed dosage) [when confusion is possible, use rd for rad]
G	gauss		
g	gram	rpm	revolutions per minute
Ga	billion years	RSD	relative standard deviation
g-cal	gram-calorie	Ry	rydberg
GeV	gigaelectronvolt	s	second
Gy	gray (absorbed dose, specific energy imparted)	S	siemens (conductance)
h	hour	sp	species (singular)
H	henry (inductance)	spp	species (plural)
ha	hectare	sr	steradian
Hz	hertz	Sv	sievert (dose equivalent)
in.	inch	t	metric ton
J	joule		
K	kelvin		
ka	thousand years		

T	tesla	Wb	weber (magnetic flux)
tn	ton [note that this abbreviation is rarely used]	yr	year (e.g., cm/yr)
Torr	Torr (pressure)	Ω	ohm (electrical resistance)
var	variety	'	minute (plane angle)
W	watt (power, radiant flux)	"	second (plane angle)

5.6 Below is a list of abbreviations of mathematical functions:

$\sin x$	$\cot x$	$\sinh x$	$\coth x$	$\log x$
$\arcsin x$	$\operatorname{arccot} x$	$\operatorname{arsinh} x$	$\operatorname{arcoth} x$	$\ln x$
$\cos x$	$\sec x$	$\cosh x$	$\operatorname{sech} x$	$\exp x$
$\arccos x$	$\operatorname{arcsec} x$	$\operatorname{arccosh} x$	$\operatorname{arcsech} x$	$\operatorname{sgn} x$
$\tan x$	$\operatorname{cosec} x$	$\tanh x$	$\operatorname{cosech} x$	
$\arctan x$	$\operatorname{arccosec} x$	$\operatorname{arctanh} x$	$\operatorname{arccosec} x$	

5.7 Abbreviations that are common to a specific field may be permitted without identification in books and journals in that field only at the discretion of the scientific editor. For a guide to abbreviations for specific journals, see their appendixes.

5.8 Used alone or in running text, the words *latitude* and *longitude* are never abbreviated:

the zone from ten to forty degrees north latitude	the polar latitudes
from 10°30' north latitude to 10°30' south latitude	longitude 90° west

In technical work or in tables, designations of latitude and longitude may be abbreviated in any of the following ways:

lat. 35°15'30" S	long. 45°12'30" E
lat. 35°15'30" S	long. 45°12'30" W
lat. 35°15'5" S	long. 45°12'5" E
lat. 35°15'5" N	long. 45°12'5" E

Note that, in any of these systems, periods may be omitted after *lat.* and *long.*; these labels may also be dropped, since *E*, *W*, *N*, or *S* identifies the coordinate. The figures are always closed up, and there is a space before the compass direction.

The plane went down at 23°12'14" S, 45°35'38" E.
The eye of the hurricane was located near 30° N, 75° W.

5.9 Do not abbreviate the following in text: the words *day*, *week*, *month*, and *year*; days of the week; months not used with a date; personal titles not used with a name; and states not used with a city. In tables, accepted abbreviations of these words may be used. In a strict measurement sense in text, the abbreviation *yr* for *year* is acceptable.

5.10 Use the following abbreviations and spelled-out forms for months with a date in footnotes, tables, figure captions, bibliographies, and lists of literature cited.

Jan.	Mar.	May	July	Sept.	Nov.
Feb.	Apr.	June	Aug.	Oct.	Dec.

In text, spell out all months with or without a specific day.

5.11 Use the following abbreviations for days of the week when necessary.

Mon. Tues. Wed. Thurs. Fri. Sat. Sun.

5.12 Use such abbreviations as *US* and *USSR* as adjectives only; spell out *the United States* and *the Soviet Union* as the noun forms.

US science policy chemical industry in the United States

Avoid the use of *USA* except in postal abbreviations.

5.13 Spell out and capitalize *company* and *corporation* as part of company names when they appear in a title or an author's affiliation. Abbreviate them elsewhere in text. After the first mention, drop them entirely.

<i>In a Title</i>	<i>On First Mention</i>	<i>Thereafter</i>
Dow Chemical Company	Dow Chemical Co.	Dow (or Dow Chemical)

6. NUMERAL USAGE

6.1 Use numerals with units of time or measure, and use a space between the number and the unit (except with °, %, and \$).

6 min	25 ml	0.20 g
<i>but</i>		
12°C	50%	\$250

Note: Russian translators often, incorrectly, place the dollar sign after the numeral.

6.2 When measurements are used in a nontechnical sense in nonscientific text, spell them out.

If it takes you fifteen minutes to read this guide, you need to take more time.

6.3 In scientific text, use % for a percentage; in nonscientific text, write *percent*.

6.4 With items other than units of time or measure, use words for numbers less than or equal to 10; use numerals for 11 and above, unless the number is the first word of a sentence.

three flasks	tenfold	<i>but</i>	30 flasks	20-fold
<i>but</i>				
2–3 weeks	9 days		a 6-day-old specimen	

6.5 Numbers applicable to the same category should be treated alike within the same context. If you must use figures for some of the numbers in a sentence, use figures for all of the numbers in that category.

Of the samples tested, 13 were positive, 7 were negative, and 2 showed an inconclusive result.

6.6 Try not to begin a sentence with a numeral. Recast the sentence if possible; otherwise, spell out the number and the unit of measure if there is one.

Fifteen milliliters of supernatant was added to the reaction vessel.

6.7 Even when a sentence begins with a spelled-out number, follow the rules for all other numbers in the sentence.

Twenty-two micrograms of sample was dissolved in 20 ml of acid.

6.8 Use numerals for all the numbers in a series containing numbers above and below ten.

The subjects were examined after 5, 8, and 11 years.

6.9 Numerals are not spelled out when used in a mathematical sense.

The incidence of disease increased by a factor of 4.

6.10. For very large numbers in narrative text, use a combination of numerals and words. Do not do this for *thousand*.

1 million tons 4.5 billion years \$15 million \$10 to \$20 million 85 000 km

6.11. Use a half-space in numbers 10 000 and above; in Word documents (i.e., at the first stage), this appears as a whole space. Pay attention to this at second stage to make sure that a half-space appears and not a full space.

9 275 400 153 000 22 500 *but* 7600

Note: In scientific text, however, exponential notation is often preferred.

6.12 Use numerals for decades, and form their plurals by adding an *s* (without an apostrophe). Use the full form of the number, not a contraction (unless colloquial style is specifically required).

Incorrect

the '50s the 1890's the middle '60's the 1960–1970s

Correct

the 1950s the 1890s the mid-1960s the 1960s–1970s

6.13 When numerals are used as names rather than for enumeration, form their plurals by adding an apostrophe and *s* to avoid confusion with mathematical expressions.

Many 6's were registered.

6.14 Use decimals rather than fractions with units of time or measure, except when doing so would imply an unwarranted accuracy.

3.5 h *not* 3 1/2 h

6.15 In nonscientific text, spell out and hyphenate fractions.

one-quarter of the population

6.16 In text, spell out the ordinals *first* through *tenth*; use numerals for *11th* and succeeding ordinals. Never add ordinal endings to roman numerals. Do not hyphenate numerals and ordinal endings. For a range of ordinal numbers: 31st–40th days (*not* 31–40th days).

Note: An ordinal may not be spelled out if it is part of an accepted formulation of a name (e.g., the title of a conference). Also, in references, ordinals are not spelled out when they refer to an edition of a book.

6.17 Do not add ordinal endings to numbers in dates.

6.18 For lists of phrases or sentences, use consecutive numerals in parentheses. Always use two parentheses, not one.

Some advantages of these materials are (1) their electrical properties after pyrolysis, (2) their ability to be modified chemically before pyrolysis, and (3) their abundance and low cost.

The major conclusions are the following: (1) We have further validated the utility of molecular mechanical methods in simulating the kinetics of these reactions. (2) A comparison of the calculated structures with available x-ray structures revealed satisfactory agreement. (3) The combined use of different theoretical approaches permitted characterization of the properties of a new isomer.

Note: To avoid confusion with numbered equations in surrounding text, lowercased Roman numerals (i.e., i, ii, iii, iv, etc.) may be used instead of numerals.

6.19 When two numbered items are cited in narrative, use *and*. However, use a comma within brackets or parentheses when two references are cited.

Figs. 1 and 2 *but* Lewis [12, 13] found that ...

Note: For equations, the parentheses are part of the name of the equation.

It can be seen in (1) and (2) that ... *not* It can be seen in (1, 2) that ...

6.20 Use an en dash with three or more numbered items in a series, both in narrative and in parentheses.

Tables 2–4 show that ... Past results [27–31] indicate that ...

6.21 Use a period, not a comma, for decimals. Use an initial zero before the decimal.

<i>Incorrect</i>	<i>Correct</i>
0,001	0.001

6.22 When numbers are on a line, the comma is followed by a space; when numbers are in superscripts or subscripts, the comma is not followed by a space. This style is strictly a typesetting convention.

13, 14, 27, 115, and 146 *but* $X_{1,2}$ $Y^{1,4}$

6.23 Clock time designation. Use numerals with *a.m.* and *p.m.*

6:30 a.m. 9:45 p.m. 06:30 UT 21:45 UT

7. UNITS OF MEASURE

7.1 Use metric and SI (International System) units. Abbreviations for SI units are included in Abbreviations. Some multiplying prefixes and their abbreviations follow:

a	atto (10^{-18})	c	centi (10^{-2})	G	giga (10^9)
f	femto (10^{-15})	d	deci (10^{-1})	T	tera (10^{12})
p	pico (10^{-12})	da	deka (10^1)	P	peta (10^{15})
n	nano (10^{-9})	h	hecto (10^2)	E	exa (10^{18})
μ	micro (10^{-6})	k	kilo (10^3)		
m	milli (10^{-3})	M	mega (10^6)		

7.2 Abbreviate the unit of measure when it appears with a numeral; leave a space between the number and the unit of measure, except when they form a unit modifier, in which case use a hyphen between them.

500 ml NaOH *but* 500-ml flask

However, there are some exceptions to this rule. For instance, a 10 to 100 K temperature range. This is journal-specific and should be indicated in the respective journal's appendix.

7.3. Do not use the abbreviated form of simple units of measure with indefinite or spelled-out numbers in running text.

5 Hz a few hertz 30 m several tens of meters five hours *but* a few MeV
12 million hectares 12 500 000 ha

7.4 Do not use plurals for abbreviated units of measure.

50 mg *not* 50 mgs

7.5 In ranges and series, retain only the final unit of measure.

10–12 mg 5, 10, and 20 kV 25–30% 30, 60, and 90°C

Note: The degree sign is an exception when it indicates angles:

30°, 60°, and 90° rotations

7.6 Hyphenate unit modifiers containing a number, a unit of measure, and a word.

3-year-old child 4-mm-thick layer

7.7 When a sentence starts with a specific quantity, spell it out, along with the unit of measure.

Twenty-five milliliters of acetone was added.

However, it is preferable to recast the sentence:

Acetone (25 ml) was added.

7.8 Even when a sentence starts with a spelled-out quantity, use numerals when appropriate in the rest of the sentence.

Twenty milliliters of acetone and 5 ml of HCl were added.

7.9 Use the percent symbol with a number, without a space, except in cases where the number that it modifies has been spelled out in the text.

25% 45–50% *but* Four percent of cases ...

Note: When the percent symbol is used in unit abbreviations, it is preceded by a space (e.g., at %, mol %, vol %, wt %).

7.10 Do not use the degree symbol with the Kelvin scale.

7.11 Use °C with no space after a number and no space between the degree symbol and the C.

7.12 For angle measurements, use the degree symbol closed up to the number.

7.13 In column headings of tables and in axis labels of figures, abbreviate units of measure.

8. CHEMICAL NAMES AND SYMBOLS

8.1 The names of chemical compounds consist of locants, descriptors, and syllabic portions. Locants and descriptors can be numbers, element symbols, small capital letters, Greek letters, roman letters, italic words and letters, or combinations of these. The syllabic portions of chemical names are just like other common nouns: they are set in roman type, are lowercased in text, are capitalized at the beginnings of sentences, and are hyphenated only when they do not fit completely on one line.

8.2 Use a comma without a space between numerical locants, element-symbol locants, and Greek locants.

1,2-dinitrobutane *N,N*-dimethylacetamide
N,4-dichlorocyclohexanepropionic acid

A comma without a space should also be used in cases such as the following:

(K,Na)SO₄ *not* (K, Na)SO₄

8.3 Use a hyphen to separate locants and descriptors from the syllabic portion of the name. Do not use a hyphen in chemical names if it does not separate a locant or descriptor from the syllabic portion.

1,2-benzoylbenzoic acid *N,N'*-dimethylurea β-endorphin

8.4 The following are set in italic type and should be marked with @:

(1) positional prefixes (*para*-, *ortho*-, and *meta*-; often abbreviated as *p*-, *o*-, and *m*-);

ortho-toluamide (also *o*-toluamide) 5-nitro-*m*-xylene *p*-toluenesulfonamide

Note: If *ortho* or *meta* are used not as positional prefixes but to indicate a type of structure or compound, they should not be italicized.

an *ortho* structure orthophosphoric acid

(2) stereoisomer descriptors (*cis*-, *trans*-, *gauche*-, etc.);

cis-11-eicosenoic acid *trans,trans*-2,4-nonadienal *trans*-2,*cis*-6-nonadienal

(3) chemical symbols used to denote attachment to an atom.

N,N-diethylaniline *O*-isopropylxanthic acid, potassium salt

8.5 Chemical names and nonproprietary drug names are not capitalized in text unless they are the first word in a sentence. Then, the first letter of the syllabic portion is capitalized, but not the locant, descriptor, or positional prefix.

<u>In text</u>	<u>At beginning of sentence</u>	<u>In title or heading</u>
di- <i>sec</i> -butyl ether	Di- <i>sec</i> -butyl ether	Di- <i>sec</i> -Butyl Ether
<i>tert</i> -butyl fluoride	<i>tert</i> -Butyl fluoride	<i>tert</i> -Butyl Fluoride
1-bromo-3-chloropropane	1-Bromo-3-chloropropane	1-Bromo-3-Chloropropane
2-(2-chloroethyl)pentanoic acid	2-(2-Chloroethyl)pentanoic acid	2-(2-Chloroethyl)pentanoic Acid
<i>N</i> -ethylaniline	<i>N</i> -Ethylaniline	<i>N</i> -Ethylaniline
β -hydroxy- β -aminobutyric acid	β -Hydroxy- β -aminobutyric acid	β -Hydroxy- β -Aminobutyric Acid
D-1,2,4-butanetriol	D-1,2,4-Butanetriol	D-1,2,4-Butanetriol
<i>erythro</i> - β -hydroxyaspartic acid	<i>erythro</i> - β -Hydroxyaspartic acid	<i>erythro</i> - β -Hydroxyaspartic Acid
poly(butyl phthalate)	Poly(butyl phthalate)	Poly(butyl phthalate)

Note: These rules also hold for words such as *β particle*.

8.6 Multiplying prefixes are set in roman type and closed up to the word. They are capitalized in headings and titles.

Latin Prefixes

di, tri, tetra, penta, hexa, hepta, octa, nona, deca

Greek Prefixes

bis, tris, tetrakis, pentakis, hexakis, heptakis, octakis, nonakis, dekakis

8.7 In polymer nomenclature, *co*, *alt*, *b*, *g*, *r*, and *m* are italicized; in newer polymer nomenclature, the words *block*, *graft*, *cross*, *inter*, and *blend* are also italicized when they appear with the chemical name or formula. They are never capitalized.

poly(styrene-*co*-butadiene) poly(ethylene-*alt*-carbon monoxide)
polystyrene-*block*-polybutadiene poly(*cross*-butadiene)

8.8 Greek letters, not the spelled-out forms, are used in chemical and drug names.

β -naphthol *not* beta naphthol

8.9 Numerals separated by periods within square brackets are used in names of bridges and spiro alicyclic compounds.

bicyclo[3.2.0]heptane

spiro[4.5]decane

8.10 Italic letters within square brackets are used for names of polycyclic aromatic compounds.

dibenz[*a,j*]anthracene

1*H*-benz[*de*]naphthacene

8.11 Optical rotational signs are indicated by plus and minus signs in parentheses and are hyphenated to the chemical name.

(+)-glucose

(-)-tartaric acid

8.12 In general, chemical names made into unit modifiers are not hyphenated. If a prefix or suffix is added, an en dash is used (see Section 3.10.8).

nucleic acid content

amino acid level

sodium hydroxide solution

but

barium sulfate–containing precipitate

8.13 Trade names and patented medicines are spelled with an initial capital letter; they are not italicized. The trademark or patent symbol is omitted.

Teflon M

Vaseline

8.14 Isotopes are indicated with a numeric superscript preceding the symbol for the element.

H₂¹⁸O

²⁹Si NMR spectrum

8.15 Both chemical symbols and element names may be used in text. In simple constructions, they should not be mixed.

NaCl

or

sodium chloride

not

Na chloride

However, it is acceptable to refer to *NaCl* and *sodium chloride* within the same paper.

8.16 For longer or more complex constructions, chemical symbols and element names can be mixed.

Na phthalocyanate

Na, K, Cs, and Rb chlorides

8.17 Symbols for chemical elements are written in roman type with an initial capital letter as individual atoms and as parts of formulas.

Ca

C

H

He

HCl

NaOH

HgSO₄

8.18 The spelled-out names of chemical elements and formulas are also written in roman type, but they are treated as common nouns.

calcium

hydrochloric acid

carbon

sodium hydroxide

hydrogen

mercuric sulfate

helium

8.19 Use numerals when discussing positions in chemical structures.

Incorrect
carbon-7

Correct
carbon in the 7-position

8.20 To count atoms, use a subscript with the element symbol, but spell out the number if you spell out the element name.

a six-carbon ring

9. NAMES AND ADDRESSES

9.1 Titles

9.1.1 Personal titles are capitalized when referring to specific individuals; however, when used alone or in general contexts, they are lowercased (see Chapter 4, Capitalization).

9.1.2 The following is a list of common personal titles often encountered in Interperiodica texts, with their correct translation and abbreviation (if any).

<u>Russian</u>	<u>English Translation</u>	<u>Abbreviation</u>
Доктор физ.–мат. наук	Doctor of Physics and Mathematics	Dr. Sci. (Phys.–Math.)
Кандидат экон. наук	Candidate of Economics	Cand. Sci. (Econ.)
Академик	Academician	---
Профессор	Professor	Prof.
Доцент	Associate Professor	Assoc. Prof.
Председатель	Chair (of ...)	---
Директор	Director (of ...)	Dir.
Заместитель директор	Deputy Director	Dep. Dir.
Член РАН	Member, Russian Academy of Sciences	---
Член-корреспондент РАН	Corresponding Member, Russian Academy of Sciences	---
Главный редактор	Editor-in-Chief	---
Заместитель Глав. Редактора	Deputy Editor-in-Chief	---
Ответственный Секретарь	Assistant Editor	Asst. Ed.
Заведующий лаборатории	Head of (the) Laboratory (of ...)	---
Заведующий отделом	Head of (the) Department (of ...)	---
Старший научный сотрудник	Senior Researcher	---
Ведущий научный сотрудник	Leading Researcher	---

Phys.–Math. and other such combinations should be written with an en dash.

9.2 Names and Addresses

9.2.1 The following is the format for formulating names and addresses in Interperiodica publications: name [paragraph], chair or department, institute or university, branch, street and number, city, oblast, zip code, and country. If an e-mail address is supplied by the authors, it should appear on a separate line below the street address. If some of the above information is missing, it may be skipped.

O. V. Sen'ko

Institute of Macromolecular Chemistry, National Academy of Sciences of Ukraine, Khar'kovskoe sh. 48, Kiev, 252660 Ukraine

V. D. Mazurov

Institute of Mechanics and Mathematics, Ural Division, Russian Academy of Sciences, Yekaterinburg, Russia

e-mail: vdm@immran.ekb.ru

For autonomous regions that have declared their sovereignty, write the index before the region, followed by a comma and *Russia*.

Institute of Chemistry, Bashkir Research Center, pr. Oktyabrya 71, Ufa, 450054 Bashkortostan, Russia

Note: Use transliteration in street addresses: *ulitsa* (*ul.*), *ploshchad'* (*pl.*), *prospekt* (*pr.*), *pereulok* (*per.*), *shosse* (*sh.*), *naberezhnaya* (*nab.*), *bul'var* (*bul'v.*), *raion*, *trakt*, *tupik*, *proezd*, and *oblast*. Do not capitalize these words. Write the street name and number in the order it would be written in Russian.

Incorrect

22 Vavilov ul.

Mira pr. 143

Correct

ul. Vavilova 22

pr. Mira 143

A street name such as 2-я Бауманская улица should be written as *Vtoraya Baumanskaya ul.* and not as *2-ya Baumanskaya ul.*

9.2.2 Generally, names and addresses of institutes should be given according to the list in the appendix to this style guide; thus, check this list before translating the names of institutes yourself. Note that, in some cases, an author may specify that additional information be included in an address. Addresses of institutes should be translated according to the following models:

(1) If the name of the institute includes the name of a scholar, the scholar's name should come first in the translation (but do not include the scholar's initials).

Russian Original

Институт теоретической физики
им. Л.Д. Ландау

English Translation

Landau Institute of Theoretical
Physics

(2) If the name of the institute includes a location but no scholar's name, the location should come first in the translation.

Russian Original

Московский технический университет

English Translation

Moscow Technical University

(3) If the name of the institute includes both a location and a scholar's name, the scholar's name should come first in the translation, and the location should follow the institute after a comma.

Russian Original

С.-Петербургский институт ядерной физики
им. Б.П. Константинова

English Translation

Konstantinov Institute of Nuclear
Physics, St. Petersburg

(4) If the institute, factory, or center includes a commercial name, the commercial name comes last and is not placed in quotation marks. Commercial names are transliterated, not translated, including abbreviations such as AO (Joint-Stock Company), TOO (Limited Liability Company), and NPO (Research and Production Association).

Inform quality control of changes or additions to be made to the address appendix.

10. TRADITIONAL INTERPERIODICA REFERENCES

10.1 References in Text

10.1.1 Use a number in brackets when citing references in text. If cited directly, the author's name should be referred to without brackets, followed by the reference number in brackets. If cited indirectly, the reference should whenever possible be placed at the end of the sentence. Both of these styles may be used within a single article.

It was found that, after dehydration, the substance appeared as large blue crystals [9].
These results were also found by Ivanov et al. [3].

Note: In direct citations, if there are more than two authors, the name of the first author should be given, followed by *et al.* *Et al.* is not used in lists of references unless it appears in the original work.

10.1.2 Use a number in parentheses when citing equations, reactions, and formulas. Abbreviate *equation* as Eq. (Eqs. for plural) before a numbered equation unless it is the first word of a sentence. Do not abbreviate other words such as *expression*, *formula*, and *reaction* or capitalize them unless they are the first word of a sentence. The references listed below can also be referred to simply by writing the number in parentheses.

As Eq. (1) shows ...
As can be seen from (1) ...
The equality expressions (6)–(8) for atoms with ground state momentum ...
Taking (7) into account, we have the following expression ...

Note: Definite articles should not be used with numbered expressions.

Eq. (5)	<i>not</i>	the Eq. 5
inequality (8)	<i>not</i>	the inequality (8)
condition (1)	<i>not</i>	the condition (1)

10.1.3 Use a comma within brackets or parentheses when two references are cited, but use an en dash for three or more in sequence. Note the following acceptable variations:

[30, 31]	[30, vol. 2, no. 5]	[30, pp. 7–10, 31]
[30–32]	[30, Chapter 2]	

10.1.4 Tables and figures are always capitalized and followed by a number when they refer to an item in the text. Use *and* when two are listed, but use an en dash without spaces for three or more in a sequence. The following variations are acceptable:

references to tables and figures in text:
Table 1 Fig. 1a

Tables 1 and 2	Figs. 1a and 1b
Tables 1–3	Figs. 1a–1c
Fig. 2	Figs. 1 and 2
Figs. 1, 2, and 4	Figs. 2–5
Figs. 1–3 and 5–7	Fig. 1, curve 1
Fig. 1, curves 1 and 2	
Fig. 3; Fig. 4, curve 1	[curve 1 refers to Fig. 4 only]
Figs. 3 and 4, curves 1	[curves 1 refers to Figs. 3 and 4]
Fig. 1, curves 1–3	[lines, dotted or dashed lines, spectra]

parenthetical references in text:

(Tables 1, 2)	(Figs. 1, 2)
(Tables 2–5)	(Figs. 1, 2, 4)
(Figs. 1–3, 5–7)	(Fig. 1, curves 1, 2)
(Fig. 3; Fig. 4, curve 1)	[curve 1 refers to Fig. 4 only]
(Figs. 3, 4, curves 1)	[curves 1 refers to Figs. 3 and 4]

Note: *Figure* is always abbreviated unless it occurs at the beginning of a sentence or refers to an unnumbered figure.

10.1.5 Use consecutive numerals for figures, tables, schemes, structures, and references.

10.1.6 At the first mention of a person's name, it is acceptable to use the person's initials and last name. All subsequent references should use only the person's last name unless the initials are needed to distinguish between two people with the same last name.

10.1.7 When referring in text to a non-Russian author, ensure as far as possible that the correct spelling of the author's name as it would appear in English is followed, whether the language is originally in the Latin alphabet or must be romanized, as Japanese and Chinese.

Yashima	<i>not</i>	Yasima
Ishizawa	<i>not</i>	Isizava
Yoshimura	<i>not</i>	Esimura
Hirano	<i>not</i>	Khirano
Zhou	<i>not</i>	Chzhou

This rule should also be followed for references originally published in some language other than Russian or English. In references to works originally published in Russian, the author's name should be transliterated regardless of how it would ordinarily be spelled in English. In references to works published in English, the spelling used by the publisher should be retained.

10.2 List of References: General

Important note: Format for references in ex-AIP journals is different from traditional Interperiodica journals. See Chapter 11, Ex-AIP References.

10.2.1 For titles in English, including titles of books, journals, articles, chapters, and dissertations and names of conferences, use title capitalization. Always capitalize the first word in the title and subtitle, and capitalize all other words except for articles, prepositions, and conjunctions. Use this style also for translations of foreign titles. For titles given in a foreign language (including transliterated titles), follow the rules of capitalization for that language.

10.2.2 For book titles, article titles, etc., use of hyphens and dashes should follow the original, even if such usage contradicts this style guide.

10.2.3 Remember to indicate all special formatting at first stage by placing @ at the beginning and end of the item to be so formatted, as shown in the following examples:

Gould, S.J., @Hens' Teeth and Horses' Toes,@....
Chaplin, C., Keaton, B., Abbott, B., et al., Abstracts of Papers, @V Conference on Workplace Injuries,@....

Note: @ is placed after the punctuation following the item, as punctuation (other than parentheses) immediately following an item placed in italic or bold type should also be italic or bold.

10.2.4 Cite all authors. Only if listed as such in the original should you use *et al.*

1. Ivanov, S.A. and Petrov, S.D., ...
2. Ivanov, S.A., Petrov, S.D., and Sidorov, S.E., ...
3. Ivanov, S.A., Petrov, S.D., Sidorov, S.E., and Pavlov, K.I., ...

10.2.5 Spelling of authors' names in references to works published in a certain language should follow the original, even if an author is foreign and his or her other publications are cited with a different spelling.

10.2.6 When the author's name includes a suffix such as *Jr.*, *Sr.*, *II*, *III*, etc., the suffix is retained when the name is inverted for indexing, but it is placed after the initials; a comma is placed between the initials and *Jr.* and *Sr.*, but not between the initials and roman numerals.

10.2.7 If the publisher lists more than one city, give only the first. The University of California Press prefers the use of *Berkeley* and *Los Angeles* in references to its publications. If the place of publication is not widely known, the abbreviation of the state name should follow it (use the standard text abbreviation, not the postal abbreviation). When *Cambridge* is given as the place of publication, it is assumed that Cambridge, England, is meant unless otherwise indicated (e.g., Harvard or MIT is mentioned or *Mass.* is included in the publication information).

10.2.8 Russian book publishers should be transliterated, not translated. If the name is long, a *CASSI*-style abbreviation may be used. Avoid the use of acronym-like abbreviations, whenever possible. If an acronym abbreviation is used, a translation enclosed in parentheses is permitted. In general, a shortened version of the publisher's name is used, and, whenever possible, words such as *Company*, *Inc.*, *Publisher*, *Verlag*, *Izdatel'stvo*, and *Press* are omitted. Note that university presses (outside of Russia) are an exception to this rule, since books may be published by a university or the university press of the same name—two entities. For English language university presses, abbreviate *university* (Univ.), but write the rest of the name in full. Also, use *izd.* for *izdatel'stvo* in lists of references when deleting it would entail a change in the Russian declension. Some common book publishers are listed below.

Academic
Addison-Wesley
Akad. Nauk SSSR
Blackwell
Cambridge Univ. Press
Elsevier
Energoatomizdat
Freeman
Gidrometeoizdat

Gordon & Breach
Harper & Row
Harwood
Izd. Standartov (*not* Standartov)
Inostrannaya Literatura
Lesnaya Promyshlennost'
Macmillan
Marcel Dekker
McGraw-Hill

Mir
 MIT Press
 Mosk. Gos. Univ. (*not* Izd. Mosk. Gos. Univ.)
 Nauka
 Naukova Dumka
 Nauka i Tekhnika
 Nauka i Tekhnika
 North-Holland
 Oxford Univ. Press
 Pergamon
 Plenum

Prentice Hall
 Reidel
 Radio i Svyaz'
 Ross. Akad. Nauk
 Springer-Verlag
 Univ. of Chicago Press
 Univ. of Pennsylvania Press
 Van Nostrand
 Vysshaya Shkola
 Wiley
 World Sci.

Note: Preprints and dissertations are the only forms of references that cite the name of the publisher in translation rather than in transliteration.

preprints and dissertations: Moscow State Univ.

other works: Mosk. Gos. Univ.

10.2.9 The following is a list of common abbreviations and translations in references.

Abstract (spell out)	no., nos. (for issue numbers)
chapter, ch.	p., pp. (page, pages)
ed. (edition)	paper
Ed., Eds. (editor, editors)	part
inst. (institute)	univ. (university)
int. (international)	vol., vols.
Академия наук	Akad. Nauk (do not use AN)
Учебник, Справочник, Пособия	handbook
Указатель	index

10.2.10 In page spans, use all digits (e.g., 2022–2134).

10.2.11. Do not use *ibid.* The full information must be repeated.

10.2.12 The following prescriptions for the formulation of references will not cover every possible situation. The goal in formulating a reference is to make it possible for a reader to find the information cited. Include all the basic publication information in a format closest to the appropriate one among those shown here.

10.3 Books

10.3.1 Book references should appear as follows: (1) Author's Name [see formulation of authors' names below], (2) Title of Chapter [optional], (3) *Title of Book* (4) (Translation of Title) [if applicable], (5) Editor(s), (6) City: (7) Publisher, (8) year of publication, (9) volume, (10) edition [if not first], (11) chapter, (12) page(s).

1. Appen, A.A., *Khimiya stekla* (Chemistry of Glass), Leningrad: Khimiya, 1970.
2. Solovyev, I., *Sochineniya v dvukh tomakh* (Works in Two Volumes), Moscow: Nauka, 1988, vol. 1, pp. 74–78.
3. Tikhonov, A.N. and Arsenin, V.Ya., *Solution of Ill-Posed Problems*, Winston, V.H., Ed., Washington, DC: Harper and Brace, 1977.
4. *Polimernye smesi* (Polymer Blends), Paul, D. and Newman, S., Eds., Moscow: Izd. Standartov, 1981, p. 38.

In the publishing information, only include the country if the city is obscure. For cities in the United States that are not well known, add the state if known and omit *USA*. It is preferable to use the state abbreviations listed in the abbreviation appendix in *Webster's*, instead of the two-letter postal abbreviations.

Boston, 1994. (*instead of* Boston, USA, 1994.) Madison, Wis., 1996.

Russian book references will often include the total number of pages of the book. This information should be omitted.

10.3.2 The title of a book should be capitalized according to the rules for the language in which it is written (see also 10.2.1). In French titles, only the first word and proper nouns are capitalized. In German titles, the first word and nouns are capitalized.

10.3.3 A work should be cited in its original language. Thus, if the work cited is a translation into Russian, cite the original work instead of the translation, using the following format. Do not simply follow a reference with (*Russian translation*), unless the original of the work cannot be found.

Miyashiro, A., *Metamorphism and Metamorphic Belts*, London: Wiley, 1973.

10.3.4 When no facts of publication are available for a book, *n.p.*, *n.d.* (no place, no date) may be used to indicate that neither could be found.

10.3.5 When citing an article from a collection of articles, substitute the article name, if available, for the chapter. If the name of the editor of the collection is not available, the word *in* may be added (in roman type, without a colon) before the title of the collection to avoid ambiguity.

1. Shalumov, B.Z., Kuznetsov, A.I., and Rastorguev, Y.I., Synthetic Procedure for Preparation of Alloyed Materials Based on Silicon Dioxide, in *Polucheniye veshchestv dlya volokonnoi optiki* (The Preparation of Substances for Fiber Optics), Moscow: Nauka, 1980, pp. 8–10.

2. Kolar, G.E., *Chemical Halogens*, Searle, C.E., Ed., Washington, DC: American Chemical Society, 1984, vol. 2, ch. 14.

10.3.6 A multivolume work is cited as follows:

Wright, S., *Evolution and the Genetics of Populations*, 4 vols., Chicago: Univ. of Chicago Press.

Inclusive dates should be given for a several-volume work published over a number of years, if the entire work is cited.

Tillich, P., *Systematic Theology*, 3 vols., Chicago: Univ. of Chicago Press, 1951–1963.

When only one of several volumes is listed, the general title may be given first, followed by the volume number and title, or the volume title may be given first and followed by the volume number and general title.

Wright, S., *Evolution and the Genetics of Populations*, vol. 4: *Variability within and among Natural Populations*, Chicago: Univ. of Chicago Press, 1978.

Wright, S., *Variability within and among Natural Populations*, vol. 4 of *Evolution and the Genetics of Populations*, Chicago: Univ. of Chicago Press, 1978.

Volume numbers for books are always given in arabic numerals, even when they appear as roman numerals in the book.

10.3.7 A series title may indicate the publishing agency, the subject of the series, or both. This title should be treated like any other title, although not italicized. The number of the volume should follow the series title; they should be separated by a comma if the title is complete without the number. The name of the series editor may be included but is generally omitted.

Kenleigh, S.C., *Parental Care and Its Evolution in Birds*, Illinois Biological Monographs, vol. 22, nos. 1–3, Champaign: Univ. of Illinois Press.

Series cited in the *Chemical Abstracts Service Source Index (CASSI)*, including the many *Itogi nauki i tekhniki* series, should be formatted according to the *CASSI* format. For example, *Itogi nauki i tekhniki, seriya: Fizicheskaya khimiya, kinetika* should appear as follows:

Itogi Nauki Tekh., Ser.: Fiz. Khim., Kinet.

10.4 Journals

10.4.1 Items for references to articles in journals or periodicals should appear in the following order: (1) Author's Name, (2) Title of Paper [in English, whether translated or not], (3) *Title of Journal* [in original language], (4) year of publication, (5) volume number [always given in arabic numerals], (6) issue number, (7) page number(s).

1. Halkin, H. et al., Altered Erythrocyte and Plasma Sodium in Hypertension, a Facet of Hyperinsulinemia, *Hypertension* (Dallas), 1988, vol. 11, no. 1, pp. 71–77.

2. Ulrich, D.R., *J. Non-Cryst. Solids*, 1988, vol. 100, nos. 1–3, pp. 174–193.

An issue containing several numbers should be formatted as is the second example above.

Note 1: If the title of a paper in a journal is in a language other than Russian or English, leave it in the original language rather than translating it. *Vypusk* should be translated as *issue*, not *no*. In German articles: B. → vol.; H. → issue; N. → no.; S. → p.

Note 2: The original (Russian) versions of journals published by Interperiodica should be cited if this information is available from <http://www.maik.ru/> or <http://www.springerlink.com/>. The translated version of a journal should be cited in brackets (or parentheses) following the original.

Author, Title, *Vopr. Iktiolog.*, 1997, vol. 37, no. 8, p. 560 [*J. Ichthyol.* (Engl. Transl.), vol. 37, no. 8, p. 547].

10.4.2 All journals that are listed in *CASSI* should be abbreviated as they appear there. (Exception: the journals *Nature*, *Evolution*, and *Science* may appear without the city name in parentheses.) Check the journal appendices for accepted reference abbreviations of common journals for each Interperiodica publication. One-word journals are never abbreviated in *CASSI*. Prepositions and articles are almost never used in *CASSI* abbreviated titles. If a journal is not listed, you may abbreviate the title based on a similar journal abbreviation. If the title is written out in full because no abbreviated title is listed in *CASSI*, the title should follow English capitalization rules. Note the following common abbreviations.

Acad.	Academy	Nauchn.	Nauchnyi
Adv.	Advances	Obshch.	Obshchii
Akad.	Akademiya	Obshchestv.	Obshchestvennyi
Am.	American	O–va.	Obshchestva
Ann.	Annals	O–vo.	Obshchestvo
Annu.	Annual	Opt.	Optics, Optical, Optika, -icheskie
Arch.	Archives	Pap.	Paper(s)
Astron.	Astronomy, -omical, -omiya	Phys.	Physics, Physical
At.	Atomic, Atomnyi	Proc.	Proceedings
Biol.	Biology, Biological, Biologiya	Prom.	Promyshlennyy
Br.	British	Prom–st.	Promyshlennost’
Bull.	Bulletin	R.	Royal
Byull.	Byulleten	Rep.	Report(s)
Can.	Canada, Canadian	Res.	Research
Chem.	Chemical, Chemistry, Chemie	Rev.	Reviews, Revue
Chim.	Chimie	Ross.	Rossiiskii
Comm.	Commission	Sb.	Sbornik
Commun.	Communication(s)	Sci.	Science(s), Scientific
Comp.	Comparison, Comparative	Sect.	Section
Comput.	Computer	Sel’sk.	Sel’skii
Conf.	Conference	S–kh.	Sel’skokhozyaistvennyi
Congr.	Congress	S.–Peterb.	Sankt-Peterburgskii
Dokl.	Doklady	Ser.	Series, Seriya
Eur.	European	Soc.	Society
Exp.	Experimental	Sov.	Soviet
Fiz.	Fizika, Fiziko, Fizicheskii	Spec.	Special
Geol.	Geology, -ogical, -ogiya	Stn.	Station, Stantsiya
Geogr.	Geography, -aphical, -afiya	Surv.	Survey
Gos.	Gosudarstvennyi	Symp.	Symposium
Ind.	Industrial	Tech.	Techniques, Technical
Inst.	Institute	Technol.	Technology
Int.	International	Tekh.	Tekhnika, Tekhnicheskii
Inter.	Interior(s)	Tekhnol.	Tekhnologiya, -ogicheskii
Izv.	Izvestiya	Teor.	Teoriya
J.	Journal	Tezisy	(not abbreviated)
Jpn.	Japan, Japanese	Tr.	Trudy
Khim.	Khimiya, Khimicheskii	Trans.	Transactions
Konf.	Konferentsiya	Uch.	Uchenie, Uchenyi
Lab.	Laboratory, Laboratoriya	Uchebn.	Uchebnyi
Leningr.	Leningradskii	Univ.	University, Universitet
Lett.	Letters	Usp.	Uspekhi
Mat.	Matematika	Vestn.	Vestnik
Math.	Mathematics	Vopr.	Voprosy
Mekh.	Mekhanika, -anicheskii, -anizm	Vseross.	Vserossiiskii
Miner.	Mineral(s), Mineraly, -al’nyi	Vses.	Vsesoyuznii
Mol.	Molecular	Vyssh.	Vyshii
Mosk.	Moskovskii	Z.	Zeitschrift
Nat.	Nature, Natural	Zaved.	Zavedenie
Natl.	National	Zap.	Zapiski
Nauchno-Issled.		Zh.	Zhurnal

Watch out for journal titles that change name or split into different sections over time. Be suspicious if you see a letter designation in the volume number. For instance, *Philos. Trans. R. Soc. London*, 1993, vol. 342A → *Philos. Trans. R. Soc. London, Ser. A*, 1993, vol. 342. Any journals of this type that are frequently cited in your journal should be put in your journal appendix.

For journals that contain a city name after them in parentheses (in order to avoid confusion with another journal of the same name), the city name is not italicized.

Hypertension (Dallas), ... *Fiz. Tverd. Tela* (S.-Peterburg), ...

10.5 Patents

10.5.1 (1) Name of Patent Holder, (2) Number of Patent or Inventor's Certificate, (3) *Publication in Which Patent was Published*, (4) year of patent or publication, (5) volume number, (6) issue number, (7) page number(s).

1. Norman, I.O., US Patent 4 379 752, 1983.
2. Lyle, F.R., US Patent 5 973 257, *Chem. Abstr.*, 1985, vol. 65, p. 2870.
3. Ivanov, S.A., USSR Inventor's Certificate no. 127, *Byull. Izobret.*, 1983, no. 9, p. 195.

The format for an unpublished patent is as follows:

4. Petrov, A.A., USSR Inventor's Certificate no. 157, 1979 (unpublished).

10.5.2 The following national abbreviations are commonly used in patent citations: RF (Russian Federation), EEC (European Community), Fr. (French), FRG (German), Jpn. (Japan), UK (United Kingdom), and US (United States).

10.6 Dissertations

10.6.1 (1) Author's Name, (2) Title of Dissertation (if available), (3) *Cand. Sci./Doctoral (Faculty) Dissertation*, (4) City: (5) Publisher [if Russian, give in English], (6) year of publication, (7) page number(s).

1. Cheishvili, T.Sh., Study of the Surface Phenomena in Manganese-Containing Glasses, *Cand. Sci. (Chem.) Dissertation*, Moscow: Research Inst., 1981, p. 45.

Note the following abbreviations used to indicate the faculty associated with the dissertation.

Agric. (Agriculture)	Geogr. (Geography)
Biol. (Biology)	Math. (Mathematics)
Chem. (Chemistry)	Med. (Medicine)
Econ. (Economics)	Mineral. (Mineralogy)
Eng. (Engineering (технические науки))	Phys. (Physics)
Geol. (Geology)	

Use an en dash to indicate joint subject area: *Cand. Sci. (Geol.–Mineral.) Dissertation*

10.6.2 Both candidates and doctors write a dissertation, not a thesis.

10.6.3. In citing dissertations, *avtoreferat* should be translated as *extended abstract*.

1. Author, Title, *Extended Abstract of Cand. Sci. Dissertation*, institute, city, year, page number.

However, you will often not be able to tell whether it is a dissertation or only the extended abstract being cited. In this case, cite it as a dissertation.

10.7 Meeting Papers

10.7.1 (1) Author's Name, (2) Title of Paper [if no title, use *Abstracts of Papers* in roman type], (3) *Name of Meeting or Conference*, (4) (Translation of Name) [if applicable], (5) City, (6) year, (7) volume number, (8) issue number, (9) page number(s).

1. Trukhin, A.N., Localized States of Silicon Dioxide in Sodium- and Lead-Silicate Glasses, *Trudy 15-ogo mezhdunarodnogo kongressa po steklu* (Proc. 15th Int. Congress on Glass), Leningrad, 1989, vol. 1a, pp. 95–101.
2. Brekhovskikh, S.M., Abstracts of Papers, *VI Vsesoyuznoe soveshchanie po stekloobraznomu sostoyaniyu* (VI All-Union Conf. on Vitreous State), Leningrad, 1975, pp. 32–37.

Note: Never turn roman numerals into ordinals; e.g., XX Conference on High-Energy Physics, *not* XXth Conference....In general, the form of a numeral in a conference title should not be changed, even in a translation of the title.

10.7.2. Meeting papers published as a book with publication information given.

Author, Title of Paper, *Proc. ... Conference* (Place, year), city: publisher, year, page(s).

You may see a book title listed together with conference proceedings (often in the original version: *Book Title. Proc. ... Conference*).

Book Title (Proc. ... Conference, city, year), city: publisher, year, page(s).

10.8 Preprints

10.8.1 (1) Author's Name, (2) Title of Paper [in English], (3) *Preprint of* (4) *Name of Institution* [in English], (5) City, (6) year, (7) preprint no., (8) page(s).

28. Grinchenko, B.I., Mechanisms of Inversion Formation in Recombination Lasers, *Preprint of Inst. of High Temperatures, Russ. Acad. Sci.*, St. Petersburg, 1992, no. 5–155, p. 28.

10.9 GOST (Soviet/Russian State Standards)

10.9.1 (1) *GOST* (State Standard) (2) *no. of standard*: (3) *Title/Subject of Regulation* [in English], (4) year (if available).

29. *GOST* (State Standard) 2874–82: *Potable Water*, 1982.

10.10 Unpublished Materials

10.10.1 Accepted for publication but not yet published:

1. Abrams, S.E., *The Life of Science* (in press).
2. Roe, A.B., *J. Pharm. Sci.* (in press).

For a book, the publisher may be included if known.

Where in Moscow, 5th ed., Richardson, P.E., Ed., Montpelier, Vt.: Russian Information Services (in press).

10.10.2 Submitted but not yet accepted:

1. Roe, A.B., submitted for publication in *J. Pharm Sci.*

10.10.3 Personal communications:

1. Doe, C.D., The State University of New York at Buffalo, personal communication, 1985.

10.11 Material Presented Orally

10.11.1 The following format should be used for papers presented at a meeting but not published in proceedings:

Ford, W.T., Paper presented at the 189th National Meeting of the American Chemical Society, Miami, FL, April 1985; paper ORGN 79.

Note that the name of the conference is not italicized here, since it is not the title of a book (i.e., published conference proceedings). The title of the paper, capitalized as any other title, may be given after the presenter's name and should be followed by a period.

10.12 Depositions

- 10.12.1** Esin, V.O., Brodova, I.G., and Pankin, G.N., *Formy rosta tverdoi fazy pri kristallizatsii alyuminiyevykh splavov* (Solid-Phase Growth Forms in Crystallization of Aluminum Alloys), Available from VINITI, 1981, Yekaterinburg, no. 4063-81.

11. EX-AIP REFERENCES

11.1 General

This format for references applies to the following American Institute of Physics journals.

<i>Acoustical Physics</i>	<i>Physics of Atomic Nuclei</i>
<i>Astronomy Letters</i>	<i>Semiconductors</i>
<i>Astronomy Reports</i>	<i>Physics of the Solid State</i>
<i>Crystallography Reports</i>	<i>Technical Physics</i>
<i>Doklady—Physics</i>	<i>Technical Physics Letters</i>
<i>Optics and Spectroscopy</i>	<i>Journal of Experimental and Theoretical Physics Letters</i>
<i>Plasma Physics Reports</i>	<i>Journal of Experimental and Theoretical Physics</i>

11.2 References are numbered both in citations in the text and in the References section (as according to Chapter 10).

11.3 The transliteration system is the same as traditional Interperiodica journals except for “й” and “э.” At first stage, these two letters should be written as @i and @e, respectively.

Examples: Московский → Moskovski@i (Moskovskiĭ) это → @eto (éto)

11.4 The following rules apply for references to journals:

- Author's initials go before the surname with a space between the initials. Use *and* between the last two authors. If more than four authors, use *et al.* after the third author instead of naming the remaining authors.
- The name of the journal is written in the standard *CASSI*-abbreviated form in plain text instead of italics.
- The volume number follows the journal title in bold without a preceding comma and without the word *vol.* At first stage, the volume number is enclosed by @.
- If the page numbering is continuous throughout the volume, the issue number is not indicated. In this case, the first page number of the article follows the volume number separated by a comma but without the word *p.* If the page numbering is not continuous, the issue number is written in parentheses in plain text following the volume number with a comma placed after the issue number, followed by the page number. In both cases, the year of publication follows the page number in parentheses.

Examples: J. Appl. Phys. **44**, 5151 (1973). Phys. Today **30** (5), 44 (1977).

- If the volume number is missing, the issue number is indicated instead as shown by the following example: J. Appl. Phys., No. 12, 5151 (1973).
- For a Russian journal previously translated by AIP and now translated by MAIK "Nauka/Interperiodica," the translation journal should be cited in square brackets following the original journal.

Examples:

1. G. Young and R. E. Funderlic, J. Appl. Phys. **44**, 5151 (1973).
2. M. D. Levenson, Phys. Today **30** (5), 44 (1977).
3. V. I. Talanov, L. B. Ivanov, and S. V. Petrov, Pis'ma Zh. Éksp. Teor. Fiz. **2**, 218 (1965) [JETP Lett. **2**, 138 (1965)].

11.5 The following rules apply for references to books:

- Authors are cited in the same way as in **11.4**, with the exception that all authors are indicated.
- The title of the book is written in italics.
- If the book is published in Russian, only the English translation of the title is cited.
- Any subsequent edition after the first edition is mentioned following the title.
- The publication information follows the title (and edition) in parentheses in the order publisher, city, year. The publisher's name is generally written in a standard shortened form.
- Volume number (Vol.), part number (Part), chapter number (Chap.), and page numbers (pp.) follow the publication information.

Examples:

1. L. S. Birks, *Electron Probe Microanalysis*, 2nd ed. (Wiley, New York, 1971).

2. A. Yu. Grosberg and A. R. Khokhlov, *Statistical Physics of Macromolecules* (Nauka, Moscow, 1989).

3. D. R. Edwards, in *Proceedings of the 1972 Heat Transfer and Fluid Mechanics Institute*, Ed. by Raymond B. Landis and Gary J. Hordemann (Stanford Univ., Stanford, CA, 1972), pp. 71–72.

4. Robert J. Fuller, in *Point Defects in Solids*, Ed. by James H. Crawford, Jr. and Lawrence M. Slifkin (Plenum, New York, 1972), Vol. 1, Chap. 2, pp. 103–150; M. N. Kabler, *ibid*, Vol. 1, Chap. 6, pp. 327–380.

If information is available about the publication of a Russian book translated into English, French, or German, the publication information of the original and translated work should be cited. The same idea applies to a book translated into Russian.

Examples:

1. L. D. Landau and E. M. Lifshitz, *Electrodynamics of Continuous Media* (GITTL, Moscow, 1957; Pergamon Press, Oxford, 1960).

2. A. H. Sully, *Chromium* (Butterworths, London, 1957; Metallurgiya, Moscow, 1963).

11.6 The following format applies for references to unpublished materials:

Examples:

1. R. T. Swan, Saclay Report No. CEA-R 3147, 1957 (in press).

2. J. Moskowitz, presented at the Midwest Conference on Theoretical Physics (Indiana Univ., Bloomington, IN, 1966) (in press).

11.7 The following format applies for references to patents:

Example:

1. W. J. Thompson and D. R. Albert, U.S. Patent No. 7 430 020 (3 March 1975).

11.8 The following format applies for references to dissertations:

Examples:

1. I. Ya. Erukhimovich, Candidate's Dissertation in Mathematical Physics (Moscow, 1979).

2. I. Ya. Erukhimovich, Doctoral Dissertation in Mathematical Physics (Moscow, 1994).

11.9 The following format applies for references to preprints:

Example:

1. A. P. Serebrov and N. V. Romanenko, Preprint No. 2194, PIYaF RAN (St. Petersburg Inst. of Nuclear Physics, Russian Academy of Sciences, 1997).

11.10 The following format applies for references to meeting papers:

The title of a conference and its place and date are italicized. Publication information (name, city, and year) follows in parentheses. The first page number of the cited material is then given separated by a comma.

For ex-EBSCO journals, see the special instructions issued by Translation Services.

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