Translation Guidelines

CONTENTS

1. FORMAT

1.1 Abstract

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.

1.2 Headings and Subheadings

Headings of sections within the text should be written in all capitals. First-level subheadings should be italicized 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 are italicized. Second-level subheadings may also be set in bold if so specified in the journal; 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]
Latest Findings
EXPERIMENTAL
Synthesis
Calorimetric Measurements
Heat capacities [second-level subheading]
RESULTS AND DISCUSSION
CONCLUSIONS [always plural]
APPENDIX (APPENDICES)
ACKNOWLEDGMENTS [always plural]
REFERENCES
TABLES
Table 1
Key [traditionally formatted journals]
Table 2
Key
FIGURE CAPTIONS [No actual artwork should appear in file.]
Fig. 1
Key

1.3 Acknowledgments

Note: This is a standard subsection title and **must** appear as ACKNOWLEDGMENTS regardless of

the number of people or institutions being acknowledged.

1.3.1 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.

1.3.2 Much research is funded by the Российский Научный Фонд. This should be acknowledged as in the following examples (and never simply RSF):

This work was supported by the Russian Science Foundation, project no. 2024-02-04253a.

This study was supported in part by the Russian Science Foundation, project no. 2024-02-04253a.

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 Science Foundation (project no. 2024-02- 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 ....").

1.4 Footnotes

Footnotes should be indicated after the item(s) to which they refer. Whenever possible, avoid placing footnote markers in the middle of sentences. Footnotes are constructed as follows.

Example:

The most important novel development of the world's Arctic zone proclaimed in many official documents of the Arctic Council and reports of its working groups is the exceptionally high rate of change, which is overturning the boldest predictions of a decade ago [7]. Precisely this phenomenon is the main reason for the Arctic's transformation from a global periphery to a global frontier.[1]

[1] According to F. Turner [8], wherever the highest rate of penetration of the explored into the unexplored is, the highest rate of changes will be there.

1.5 Appendices

1.5.1. 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.

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

1.5.3. 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.

1.6 Tables

Russian text should be overwritten by the English translation. It is necessary to change comma decimal separators to periods.

Example:

Таблица 2. Среднеквадратические значения виброускорений, м/с^2

Ось	Степень износа ИК	Все частоты до 1 кГц	Октавные полосы со средней геометрической частотой, кГ ц			
			0,5	1,0	2,0	4,0
X	С износом	0,38	0,020	0,066	0,240	0,290
X	Новый	0,31	0,040	0,052	0,270	0,200

Table 2. Root-mean-square values of vibrational acceleration (m/s^2)

Axis	TT state	All frequencies up to 1 kHz	Octave bands with geometric-mean frequency, kHz			
			0.5	1.0	2.0	4.0
X	Worn	0.38	0.020	0.066	0.240	0.290
X	New	0.31	0.040	0.052	0.270	0.200

If text fragments requiring translation cannot be manipulated, they should be handled with keys immediately following the table in the traditional manner.

1.6.1 If the table has notes, they should be formatted as follows:

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

Data were collected in only seven Siberian sites.

[a]Data are incomplete for this site.

[b]Data for 1993 not included.

*$p < 0.05$.

**$p < 0.01$.

***$p < 0.001$.

1.6.2 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.*

1.7 Figures

1.7.1 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 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.

Key:
а => (a); *б* => (b);
к => cont;
ст => edge;
тр => rad;
ин => tool.

1.7.2 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:

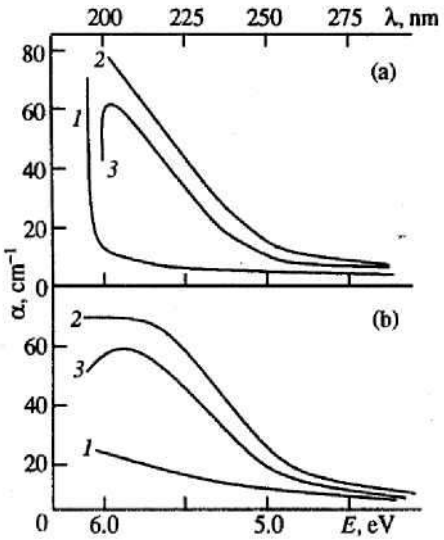


Fig. 1. Absorption spectra of (*1*) pure alkali-calcium silicate glasses and (*2*) the same glasses activated with 0.2 mol % Eu_2O_3. (*3*) Difference spectra of curves *1* and *2* for glasses with (a) sodium and (b) lithium as modifier.

1.7.3 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	*not*	analyse
color	*not*	colour
meter	*not*	metre
program	*not*	programme
sulfur	*not*	sulphur

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

2.1.2 For standard American spelling, consult *Merriam–Webster's Dictionary* (https://www.merriam-webster.com). Some words have more than one acceptable spelling; generally, use the first spelling found in *Webster's.* Note the following exceptions:

equilibria	*not*	equilibriums
indices	*not*	indexes [when the word is used in a mathematical sense]
gage	*not*	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.

2.2 Transliteration

2.2.1 Use the following transliteration system. There should be no deviations from this system but for the exceptions listed below and preferences of individual authors regarding the spelling of their names.

а	a	ж	zh	н	n	ф	f	ы	y
б	b	з	z	о	o	х	kh	ъ	”
в	v	и	i	п	p	ц	ts	э	e
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	ь	’		

Here are some names that are commonly transliterated incorrectly:

Kondrat’ev	*not*	Kondratev or Kondratyev
Petr	*not*	Pyotr or Peter
Yurii	*not*	Yuri
Aleksandr	*not*	Alexander
Mendeleev	*not*	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

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.

2.3 Transliteration Exceptions

2.3.1 The following are the only exceptions to the above transliteration system:

(1) Spellings of well-known Russian personal names that are generally accepted in English-speaking countries. The English-language version of Wikipedia or the "Dictionary of Biographical Names" in *Webster's* should be used as primary sources. If no common variant is available, the above transliteration system should be used.

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

(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 Krasnodar krai Leningrad oblast Nizhni Novgorod oblast Krasnoyarsk krai

Exception: Primorskii krai

(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.

NOUN FORM	ADJECTIVAL FORM
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 9 for punctuation used in references.

3.1.2. 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 1: Write also *Washington, DC,* not *Washington, D.C.*

Note 2: An exception is the correct abbreviation of the journal Proceedings of the National Academy of Sciences of the United States of America: *Proc. Natl. Acad. Sci. U. S. A.*

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_r 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 15 th)

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) If table space is insufficient, military style date Sept. 20, 1992 (*not* 20.09.92) 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, $A_f G$, ...

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 $\mathbf{j} = c \bullet \mathbf{E}$ 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 $\mathbf{j} = c \bullet \mathbf{E}$ 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)*

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

Incorrect: 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 (particularly when there are internal semicolons and/or periods). 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 A. 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-methanolcarbon 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 parenthetic 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 parenthetic 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 parenthetic 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 parenthetic 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 parenthetic 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) enolketo 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 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.

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.

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.

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

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 beused only whenthey form unit modifiers.

X rays *but* X-ray analysis *B* meson *but* *B*-meson decay

z axis *but* *z*-axis orientation *d* orbital cT 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 *Web-*

ster'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 cafe 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 reaction quasi-steady-state system

3.8.13 Do not hyphenate ordinals.

not	3-rd	*but*	3rd
not	*i*-th	*but*	*i*th

3.8.14 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 + *ed:*	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 A wavelength 557.7 nm emission at 60 km altitude

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." 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, do not use an en dash to indicate 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 *cis–trans* isomerization water–acetone solution
oxidation–reduction potential nickel–cadmium battery 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).

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." 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.

Note also that in translations from the Russian language em dashes tend to appear much more frequently than in the native English texts. It is recommended to consider rephrasing every sentence with em dashes when translating from Russian.

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 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).

3.12.4 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

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

3.12.6. 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.

3.12.7 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.”

3.12.8. 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”?

3.12.9. 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.

3.12.10. 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 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/cm^2 2 m/s kg/(m^2 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/SiO_2 catalyst Si/SiO_2 semiconductor Pt/Pt-Rh thermocouple

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 or mathematical operations with an element to the left and right (+, –, =, <,>, <,>, ±, etc.) with the exception of the division or fraction sign (/). In sub- and superscripts, the space may be omitted. An exception is computer codes, which sometimes may contain mathematical operations without spacing. For charge numbers and arithmetic operators with no element to the left of them, the arithmetic sign should be closed up to the number.

<2 ~5 —*x* –*a*

a + *b* *d* < *k* *X* = *A*/*B* 3 < *1011* *but* Ca^{2+} 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.

In text In 1952, I met M.A. Dubinskii at Moscow State University.

In references Boichenko, A.M., Derzhiev, V.I., and Yakovlenko, S.I.

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 9, References.

3.17.1 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.

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

five *Moscow Tribunes* and two *Cosmopolitans*

3.17.3 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.

3.17.4 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.

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

3.17.6 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.

3.17.7 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.

3.17.8 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*

3.17.9 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.

3.17.10 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 *1*. 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

3.17.11 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

3.17.12 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, ..., 20) N_A *(A* here denotes Avogadro's number)

3.18 Boldface

3.18.1 Never use bold type for emphasis.

3.18.2 *Definition [#]*, *Theorem [#]*, *Statement [#]*, *Example [#]*, and *Lemma [#]* appear in bold.

3.18.3 Roman numerals used to indicate chemical compounds should be in boldface.

3.19 Diacritical Marks

Below are some of the most common diacritical and accent marks, along with how they should be rendered in traditional first stage text.

á ě â ç à ž å ã ä ł ß İ

It is necessary to properly render diacritical marks for words, no matter if they derive from languages in which there are few (English, French, German) or many (Turkish, Portuguese, Vietnamese, etc.). If the type of symbol encountered is not among those listed above, refer to the terminology from the Wikipedia page below: http://en.wikipedia.org/wiki/Diacritic

For translation from Russian to English in XML-technology journals, words with diacritical marks should be retained as in the original or in auxiliary materials "for translators" submitted by the author or the editorial board.

For editing of English translations submitted by authors, it is necessary to retain diacritical marks.

When translating well-known names from the Russian text, it is necessary to render them properly with diacritical marks: Schrodinger, Polanyi, Bronsted, Poincare, etc.

4. CAPITALIZATION

4.1. In title capitalization (the title of the article and first-level subheadings), the first and last words and all nouns, pronouns, adjectives, verbs, adverbs, 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.

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)

For capitalization in lists of references, see Chapter 9, References.

4.2. For hyphenated compounds appearing in a title, capitalize the first letter of words on either side of the hyphen. See examples below.

Up-To-Date Methods | Non-Christian Religions | Cosmic-Ray Background Radiation
A Run-In with Authorities | Russian-Speaking Population | Post Facto Analysis
Self-Sustaining Reactions | Semi-Infinite Media | Medium-Sized Libraries | X-Ray Spectroscopy

Latin phrases in a title should be capitalized.

In Situ Measurements | A Priori Data

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 In text, capitalize *X*in *X-ray* unless specifically stated otherwise in the journal appendix as an exception; the *X*, however, still 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 parenthetic 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 Seventh Fleet Royal Air Force the Great Patriotic War

Allied armies the fleet the British air force

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 Medal of Honor

Nobel Peace Prize Congressional Medal

USSR State Prize

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 epochNeolithic 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 seasthe 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 the Palace Hotel Times Square

Fifth and Seventh avenues the Palace and National hotels 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.

Department of State	State Department	the department	the
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 *court* capitalized when used alone]			
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		

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). Please see also Appendix at the end for correct abbreviations of journals published by our publishing house.

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. In an article, the plural form of an abbreviation must be designated with an "s" to differentiate it from the singular and adjective forms. If the term upon first mention appears in the plural, you should immediately give the plural form of the abbreviation.

According to the Food and Drug Administration (FDA) ...
We studied induced magnetomotive forces (IMMFs).

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
at wt	atomic weight
at %	atomic percent
bp	boiling point
ca.	circa [reference to period of time only]
CRT	cathode-ray tube
dc	direct current
DNA	deoxyribonucleic acid
e.g.	for example
emf	electromotive force
Eq(s).	equation(s)
equiv wt	equivalent weight
ESR	electron-spin resonance
fcc	face-centered cubic [lattice]
Fig(s).	figure(s)
FM	frequency modulation
fp	freezing point
gen	genus
GLC	gas-liquid chromatography
i.d.	inner diameter
IR	infrared
M	molar (moles per liter)
mp	melting point
MM	molecular mass
N	normal solution
NMR	nuclear magnetic resonance
o.d.	outer diameter
RF	radio frequency
rms	root-mean-square
RNA	ribonucleic acid
sh.	sheet
SNR	signal-to-noise ratio
sp	species
sp ht	specific heat
sp vol	specific volume
ssp	subspecies
st.	stock; street
subg	subgenus
UV	ultraviolet
USP	United States Pharmacopeia
v.	versus (in legal citations)
var	variety
vol	volume (amount)
vol %	volume percent

mmf	magnetomotive force	vs.	versus (in general usage)
mmp	mixture melting point	wt	weight
mol %	mole percent	wt %	weight percent

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

Note: The unit of measurement *liter* is to be written with a capital L, which is an SI standard and also helps to distinguish a lowercase l from the Arabic number 1.

Examples: milliliter => mL; microliter => μL

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

	(pressure)		is rarely used]
mol	mole	Torr	Torr (pressure)
MT	metric ton	var	variety
mV	millivolt	W	watt (power, radiant flux)
mW	milliwatt	Wb	weber (magnetic flux)
MW	megawatt	yr	year (e.g., cm/yr
N	newton (force);	Q	ohm (electrical resistance)
	normal concentration	'	minute (plane angle)
nm	nanometer	"	second (plane angle)
Oe	oersted		

5.6 Below is a list of abbreviations of mathematical functions:

sin *x*	cot *x*	sinh *x*	coth *x*	log *x*
arcsin *x*	arccot *x*	arcsinh *x*	arccoth *x*	ln *x*
cos *x*	sec *x*	cosh *x*	sech *x*	exp *x*
arccos *x*	arcsec *x*	arccosh *x*	arcsech *x*	sgn *x*
tan *x*	cosec *x*	tanh	cosech *x*	
arctan *x*	arccosec *x*	arctanh *x*	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 from 10°30' north latitude to 10°30' south latitude

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

Note that exceptions are in references and addresses, where the abbreviated form is needed.

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.

In a Title	*On First Mention*	*Thereafter*
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
but		
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	*but*	30 flasks	20-fold
but				
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

Never use half-space and space in references unless the respective number is part of the cited article title.

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.

Incorrect	*Correct*
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*	$X_{1,2}$	$f^{1,4}$

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})
H	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. NAMES AND ADDRESSES

8.1 Titles

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

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

Russian	*English Translation*	*Abbreviation*
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 директора	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 лабораторией	Head of (the) Laboratory (of ...)	---
Заведующий отделом	Head of (the) Department (of ...)	---
Старший научный сотрудник	Senior Researcher	---
Ведущий научный сотрудник	Leading Researcher	---

PhD should not be used as an equivalent of Candidate of Sciences for a person receiving the degree within the Russian system of higher education. *Phys.–Math.* and other such combinations should be written with an en dash.

8.2 Names and Addresses

8.2.1 The following is the format for formulating names and addresses in 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 Branch, 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

For Moscow State University, use the following format:

[Name of faculty], Moscow State University, Moscow, [postal index] Russia

Do not indicate either Vorob'evy or Leninskie Gory or Lomonosov.

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.*

8.2.2 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	*English Translation*
Институт теоретической физики им. Л.Д. Ландау	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	*English Translation*
Московский технический университет	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	*English Translation*
С.-Петербургский институт ядерной физики им. Б.П. Константинова	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).

Russian Original	*English Translation*
Научно-учебный центр «Робототехника»	Robototekhnika Research Center
АО Цвет	AO Tsvet

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

8.2.3 Translate "отделение" of the Russian Academy of Sciences as "branch", not "division": *Ural Branch, Siberian Branch, Far East Branch,* etc.

9. REFERENCES

9.1 References in Text

9.1.1 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.

9.1.2 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) inequality (8) condition (1)

not

not

not

the Eq. 5

the inequality (8)

the condition (1)

9.1.3 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]

[30–32]

[30, vol. 2, no. 5]

[30, pp. 7–10, 31]

[30, Chapter 2]

9.1.4 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
Figs. 1a and 1b
Figs. 1a–1c
Figs. 1 and 2
Figs. 2–5
Fig. 1, curve *1*
Tables 1 and 2
Tables 1–3
Fig. 2
Figs. 1, 2, and 4
Figs. 1–3 and 5–7
Fig. 1, curves *1* and *2*
Fig. 3; Fig. 4, curve *1*
[curve 1 refers to Fig. 4 only] *[curves* 1 refers to Figs. 3 and 4]
Figs. 3 and 4, curves *1*
Fig. 1, curves *1–3 [lines, dotted or dashed lines, spectra]*
parenthetic references in text:
(Tables 1, 2)
(Figs. 1, 2)
(Figs. 1, 2, 4)
(Fig. 1, curves *1, 2)*
(Tables 2–5)
(Figs. 1–3, 5–7)
(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. For a series of tables and figures listed in parentheses, *and* is not used.

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

9.1.6 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.

9.1.7 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 *not* Yasima
Ishizawa *not* Isizava

Yoshimura	*not*	Esimura
Hirano	*not*	Khirano
Zhou	*not*	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.

9.2 List of References: General

9.2.1 For titles of sources in English, including titles of books, journals, and names of conferences, use title capitalization as described by section 4.1. 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.
For titles of articles, book chapters, dissertations, on-line articles, patents, conference abstracts and papers, preprints, deposited articles, unpublished materials, use capitalization of the normal body text.

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

9.2.3 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., ...

9.2.4 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.

9.2.5 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.

9.2.6 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).

9.2.7 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
Navuka 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.

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

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

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

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

9.2.11 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.

9.3 Books

9.3.1 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.

If a reference to a Russian book includes the total number of pages, do not include this information when translating this reference into English.

9.3.2 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.

9.3.3 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.

9.3.4 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.

9.3.5 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 *Poluchenie 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.

9.3.6 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.

9.3.7 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)* http://cassi.cas.org/search.jsp, 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.

9.4 Journals

9.4.1 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. and Mach, W., Altered erythrocyte and plasma sodium in hypertension, a facet of hyperinsu-linemia, *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: When the title of a paper in a journal is in a language other than Russian or English, leave it in

the original language if the original language is based on Latin characters; delete it otherwise. *Выпуск* should not be translated as *issue.* In some journals *выпуск* may refer to either *volume* or *number* and can often be determined from context. In most journals, *выпуск* and *номер* are used interchangeably; they are synonymous and should simply be translated as *no.*

In German articles: B. ^ vol.; H. ^ issue; N. ^ no.; S. ^ p.

Note 2: The translated versions of journals published by Springer should be cited if this information is available http://www.springerlink.com/.

Incorrect (outdated) format:

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

Correct format:

Author, Title, *J. Ichthyol.*, 1997, vol. 37, no. 8, p. 547.

9.4.2 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	Congr.	Congress
Adv.	Advances	Dokl.	Doklady
Akad.	Akademiya	Eur.	European
Am.	American	Exp.	Experimental
Ann.	Annals	Fiz.	Fizika, Fiziko, Fizicheskii
Annu.	Annual	Geol.	Geology, -ogical, -ogiya
Arch.	Archives	Geogr.	Geography, -aphical, -afiya
Astron.	Astronomy, -omical, -omiya	Gos.	Gosudarstvennyi
At.	Atomic, Atomnyi	Ind.	Industrial
Biol.	Biology, Biological, Biologiya	Inst.	Institute
Br.	British	Int.	International
Bull.	Bulletin	Inter.	Interior(s)
Byull.	Byulleten	Izv.	Izvestiya
Can.	Canada, Canadian	J.	Journal
Chem.	Chemical, Chemistry, Chemie	Jpn.	Japan, Japanese
Chim.	Chimie	Khim.	Khimiya, Khimicheskii
Comm.	Commission	Konf.	Konferentsiya
Commun.	Communication(s)	Lab.	Laboratory, Laboratoriya
Comp.	Comparison, Comparative	Leningr.	Leningradskii
Comput.	Computer	Lett.	Letters
Conf.	Conference	Mat.	Matematika
Math.	Mathematics	S.-Peterb	. Sankt-Peterburgskii
Mekh.	Mekhanika, -anicheskii, -anizm	Ser.	Series, Seriya
Miner.	Mineral(s), Mineraly, -al'nyi	Soc.	Society
Mol.	Molecular	Sov.	Soviet

Mosk.	Moskovskii	Spec.	Special
Nat.	Nature, Natural	Stn.	Station, Stantsiya
Natl.	National	Surv.	Survey
Nauchno-Issled.		Symp.	Symposium
Nauchn.	Nauchnyi	Tech.	Techniques, Technical
Obshch.	Obshchii	Technol.	Technology
Obshchestv.	Obshchestvennyi	Tekh.	Tekhnika, Tekhnicheskii
O-va.	Obshchestva	Tekhnol.	Tekhnologiya, -ogicheskii
O-vo.	Obshchestvo	Teor.	Teoriya
Opt.	Optics, Optical, Optika, -icheskii	Tezisy	(not abbreviated)
Pap.	Paper(s)	Tr.	Trudy
Phys.	Physics, Physical	Trans.	Transactions
Proc.	Proceedings	Uch.	Uchenie, Uchenyi
Prom.	Promyshlennyi	Uchebn.	Uchebnyi
Prom-st.	Promyshlennost’	Univ.	University, Universitet
R.	Royal	Usp.	Uspekhi
Rep.	Report(s)	Vestn.	Vestnik
Res.	Research	Vopr.	Voprosy
Rev.	Reviews, Revue	Vseross.	Vserossiiskii
Ross.	Rossiiskii	Vses.	Vsesoyuznii
Sb.	Sbornik	Vyssh.	Vysshii
Sci.	Science(s), Scientific	Z.	Zeitschrift
Sect.	Section	Zaved.	Zavedenie
Sel’sk.	Sel’skii	Zap.	Zapiski
S-kh.	Sel’skokhozyaistvennyi	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 vs. *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), ...

9.4.3 Do not delete DOI in the reference if provided by the author. For the format, see subsection 9.13.

9.5 Patents

9.5.1 (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 4379752, 1983.
2. Lyle, F.R., US Patent 5973257, *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).

9.5.2 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).

9.6 Dissertations

9.6.1 (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)
Biol. (Biology)
Chem. (Chemistry)
Econ. (Economics)
Eng. (Engineering (технические науки))
Geol. (Geology)
Geogr. (Geography)
Math. (Mathematics)
Med. (Medicine)
Mineral. (Mineralogy)
Phys. (Physics)

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

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

9.6.3 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.

9.7 Meeting Papers

9.7.1 (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. 95101.
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.

9.7.2 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).

9.8 Preprints

(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).

Grinchenko, B.I., Mechanisms of inversion formation in recombination lasers, *Preprint of Inst. for High Temperatures, Russ. Acad. Sci.*, St. Petersburg, 1992, no. 5–155, p. 28.

9.9 GOST (Soviet/Russian State Standards)

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

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

9.10 Unpublished Materials

9.10.1 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).

9.10.2 Submitted but not yet accepted:

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

9.10.3 Personal communications:

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

9.11 Material Presented Orally

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.

9.12 Depositions

Esin, V.O., Brodova, I.G., and Pankin, G.N., *Formy rosta tverdoi fazy pri kristallizatsii alyuminievykh splavov* (Solid-phase growth forms in crystallization of aluminum alloys), Available from VINITI, 1981, Yekaterinburg, no. 4063-81.

9.13 Internet-Based Resources—DOIs and URLs:

9.13.1 Используйте следующий формат для оформления **DOI:**

I. Полноценная (содержащая все необходимые элементы цитирования) ссылка на опубликованную статью:

формат: <ссылка в формате журнала>. Затем ставится точка. После этого следует слово "DOI" и номер. После номера точки не ставится:

Slifka, M.K. and Whitton, J.L., Clinical implications of dysregulated cytokine production, *J. Mol. Med.,* 2000, vol. 78, pp. 74–80. DOI 10.1007/s001090000086

II. Если статья еще не опубликована, то не указываются том, номер и страницы. Все остальное оформляется по тому же принципу:

Slifka, M.K. and Whitton, J.L., Clinical implications of dysregulated cytokine production, *J. Mol. Med.* (in press). DOI 10.1007/s001090000086

III. Ссылка на электронный журнал, где нет данных о страницах: указывается том, год, номер, страницы (если они есть). Всё остальное оформляется также:

Slifka, M.K. and Whitton, J.L., Clinical implications of dysregulated cytokine production, *Online J. Mol. Med.,* 2000, vol. 78. DOI 10.1007/s001090000086

9.13.2 Используйте следующий формат для оформления ссылок на URL:

Указывается автор (если есть) или общее название ресурса (например, Healthwise Knowledgebase или Royal Society of Chemistry), название документа. Затем ставится точка. После этого следует URL (например, http://www.uni-heidelberg.de/data.html). После этого опять ставится точка и указывается дата, когда документ был автором просмотрен (например, "Accessed January 17, 2003" или "Cited January 17, 2003"). Затем опять ставится точка. Курсивом ничего выделять не надо.

Примеры:

Doe, J., Title of subordinate document, The Dictionary of Substances and Their Effects, Royal Society of Chemistry. http://www.rsc.org/dose/title of subordinate document. Cited January 17, 1999.

Healthwise Knowledgebase, US Pharmacopeia, Rockville. http://www.healthwise.org. Cited September, 21, 1998.

ISSN International Centre, Global ISSN database. http://www.issn.org. Cited February 20, 2000.