

Requirements for Manuscripts Published in «Scientific Journal of Riga Technical University»

Name1 Surname1, *affiliation 1*, Name2 Surname2, *affiliation2*, Name3 Surname3, *affiliation 3*

Abstract – Give a concise summary (400-500 characters) of the paper: research focus, research methods used, the results and the main conclusions and recommendations. Use this document as a template if necessary or follow the instructions below to compose your manuscript. The Editorial Board will also ask you to provide an extended summary of the manuscript as a separate file.

Keywords – Choose up to four key words or phrases and locate them in alphabetical order just after the abstract of your paper, separated by commas. The scientists from the fields of electrical engineering, communication technologies, computer sciences and other similar fields can use a list of suggested keywords from http://www.ieee.org/organizations/pubs/ani_prod/keywrdr98.txt

I. INTRODUCTION

This document provides instructions for preparing manuscripts for publishing in *The Scientific Journal of Riga Technical University*. The document is also a sample of layout for the manuscripts submitted for publication.

The journal does not have article processing charges (APCs) nor article submission charges.

Manuscripts should be in their final form when they are submitted so that proofs will require only correction of

typographical errors. It is very important that the authors observe precision and correctness of language. The authors bear responsibility for all language mistakes.

The copyright for the articles is transferred to Riga Technical University. The manuscripts are not returned. The Editorial team of the series has the right to edit the submitted articles. If due to the request of the Editorial team, the author makes amendments to the manuscript, the Editorial team evaluates it anew.

The Editorial team decides if the manuscripts for the particular volume of RTU Scientific Journal should be only in English or may be in other languages.

II. GENERAL REGULATIONS

The manuscript should be submitted to in an electronic format. Use this file as a template if necessary. Prepare the manuscript with *Microsoft Word* (not older than *MS Word 2000*). The recommended length of the manuscript is 6-10 pages (some RTU journals, however, may have other limitations), including information about the authors, abstract and images. Write the text in two column layout. Left and right justify the columns. When writing the manuscript use Times New Roman font.

TABLE I
TYPE SIZES, SPACES AND INTERVALS

Text [style]	Size (pts.)	Small/ All Caps	Bold	Italic	Line spacing	Indent	Alignment	Before	After
Paper title [RTU - Title]	24				single		Centered	0	0
Authors' names [RTU - Authors' Names]	11				single		Centered	12	24
Abstract, keywords [RTU - Abstract & Keywords]	9		+		single	First line 0.36cm	Justified	1 line	1 line
Section titles [RTU - Heading 1]	10	Small			single		Centered	12	4
Subheadings [RTU - Heading 2]	10			+	single	Left 0.25cm	Left	6	3
Main text [RTU - Main Text]	10				exactly 12	First line 0.36cm	Justified	0	0
Figures [RTU - Figures (in)]	10				single		Centered	12	6
Figure captions [RTU - Figures (captions)]	8				single		Justified	0	12
Table captions [RTU - Tables (captions)]	8	All			single		Centered	6	3
Table titles [RTU - Tables (titles)]	8	Small			single		Centered	0	3
Text in tables [RTU - Tables (in)]	8				single		Left	2	2
Equations [RTU - Equations]	10			+	single		Justified	10	10
Author's biographical notes [RTU - Biography]	8				single		Justified	1 line	1 line
References [RTU - References]	8				single	Hanging 0.63cm	Justified	0	0
Programs and codes [RTU - Programs and Codes]	10				exactly 10		Left	1 line	1 line

Use tables and figures to adjust column length. On the last page adjust the length of columns so that they are equal. Use hyphenation only if it is necessary. Use Spell check. The Roman numerals used to number the sections are optional. If you do use them, do not number ACKNOWLEDGMENT and REFERENCES, and arrange subheadings with letters.

A. Page Layout

Use page setup with the following options: paper size *A4* (height = 29.4 cm; width = 21 cm); left and right margins = 1.1 cm; top and bottom margins = 2.66 cm; gutter = 0.51 cm. Use option “multiple pages” with value “mirror margins” (in the “Page” field). Use two-column layout with the following parameters: column width = 8.89 cm and spacing = 0.51 cm. Do not number the pages and leave the header and footer areas blank.

B. Type Sizes

When entering headings and text use the Quick style set or follow the instructions in Table I (1 point is about 0.35 mm - the size of the lowercase letter “j” will give the point size). Times New Roman is the preferred font.

III. ILLUSTRATIONS AND TABLES

Preferable options for graphic images and photographs are: 300 dpi resolution, 8 bits per pixel, grayscale.

It must be noted that all the papers will be printed using grayscale printing technology. The number of distinctly printable grayscale halftones is 6 to 8 (including pure white and black). For this reason using the photographs is not encouraged. At least avoid using low contrast photographs and images.

The mentioned printing technology is the reason why using colors is not encouraged too. Authors themselves must take care about the legibility of their color images in grayscale representation (always remember that the maximal number of printable grayscale halftones is 8).

Place figures and tables at the top or bottom of columns. Avoid placing them in the middle. Try to place them before their first mention in the text. Most charts, graphs and tables should be one column wide. However, large figures and tables may span across both columns.

A. Figures

Place figures and photographs “in line with text” (“Layout” option from the pop-up menu “Format Picture” or “Format Object”) or use style “RTU - Figures (in)”. Number the figures consecutively with Arabic numerals. Long figure captions should be placed below the figures and justified. One line figure captions may be centered.

If your figure has two parts, incorporate the labels “(a)” and “(b)” in the figure. At the same time, do not incorporate captions in the figures. Do not put captions in “text boxes” linked to the figures. Do not put borders around the outside of your figures. Use the abbreviation “Fig. 1” even at the beginning of a sentence.

Use words rather than symbols. For example, write “Magnetization,” or “Magnetization, M”,

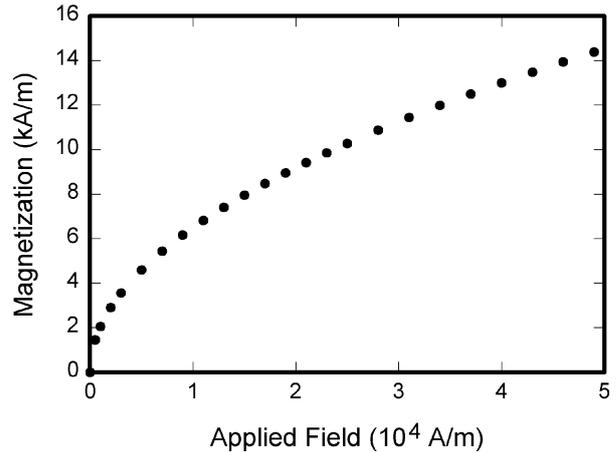


Fig. 1. Magnetization as a function of applied field. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

not just “M.” Put units in parentheses. Do not label axes only with units. In the example write “Magnetization (A/m)” or “Magnetization (A·m¹).” Do not label axes with a ratio of quantities and units. For example, write “Temperature (K),” not “Temperature/K”.

Multipliers can be especially confusing. Write “Magnetization (kA/m)” or “Magnetization (10³ A/m).” Figure labels should be legible, about 10-point type.

B. Tables

Recommended style for the tables is “RTU - Tables (in)”. However, some deviations from this style are possible. For example centered text is often preferable in the tables. Table captions and titles should always be centered and placed above the tables. Please verify that the tables you mention in the text actually exist (this regards your figures as well). Tables are numbered consecutively with Roman numerals and have reference in the main text. Do not abbreviate the “Table.”

IV. EQUATIONS

Use the equation editor to create your equations and select “RTU - Equations” style for them. Place one tab before short equations to center them. Place one or two tabs after the equations to put equation’s number flush with the right margin, as in (1). Number the equations consecutively. Punctuate equations with commas or periods when they are a part of a sentence, as in

$$\Delta V_{C(0..T)} = \frac{1}{C} \int_0^T i_C(t) dt . \quad (1)$$

Please confine equations to one column width and break equations at appropriate algebraic symbols. Short, one line equations, for example (1), have to be vertically center aligned with the corresponding numbering text and punctuation signs (as it is defined in “RTU - Equations” style). The punctuation

and numbers of longer equations that occupy two or more lines, like (2), must be vertically centered with the last line of the equation. Use font option “Position” with value “Lowered”+number to provide such alignment (applied to number and punctuation only). The parts of the longer equations must be horizontally left aligned in the equation editor. An exception from this rule is the last line that has to be right aligned with the longest of the previous lines (use spaces to do that). Do not split long equations in order not place their parts in different columns and on different pages.

$$L_{coaxial} = \frac{\mu_0}{2\pi} \cdot \left[\ln \frac{q}{p} + \frac{\mu}{\mu_0} \cdot \left(\frac{r^4}{(r^2 - q^2)^2} \cdot \ln \frac{r}{q} - \frac{1}{2} \cdot \frac{r^2}{r^2 - q^2} \right) \right] \quad (2)$$

The size of basic symbols in equations should correspond to the letter size of the main text (10pt). To do that modify “Full” and “Sub-symbol” parameters in “Size/Define” toolbar of the equation editor from its default value 12pt to 10pt. Use the solidus (/), the exp functions (e^x) etc. to make your equations more compact in height. Italicize Roman symbols for variables (T might refer to temperature, but T is the unit [Tesla]). Do not italicize Greek symbols. Use an en dash (–) rather than a hyphen (-) for a minus sign. Use parentheses to avoid ambiguities in denominators.

Symbols in the equations should be defined before the equation appears or immediately following. Use “(1)” not “Eq. (1)” or “equation (1),” except at the beginning of a sentence, for example, “Equation (1) is ...”

V. OTHER RECOMMENDATIONS

A. Programs and Codes

If necessary, include parts or entire texts of your programs following the “RTU – Programs and Codes” style or using “New Courier” font. Try to fit such texts in one column.

```
void main(void)
{
    WDTCTL = WDTPW + WDTHOLD;           //Stop watchdog
    P3DIR |= 0x01;                       //P3.0 - output
    for (;;)
    { unsigned int i;
      i = 50000;do i--;while (i != 0); //SW Delay
      P3OUT ^= 0xFF; }                  //Toggle P3.0
}
```

Wide programs may span across both columns. If so, place them at the top or bottom of the corresponding page. Avoid placing them in the middle. Avoid placing too big programs.

B. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even if they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms

do not have to be defined. Do not use abbreviations in the title unless they are unavoidable.

C. Miscellaneous Recommendations

Avoid dangling participles, such as, “Using (1), the potential was calculated.” Write instead, “The potential was calculated using (1),” or “Using (1), we calculated the potential.” Use a zero before decimal points: “0.25,” not “.25.” Use “cm³,” not “cc.” Do not mix complete spellings and abbreviations of units: “Wb/m²” or “webers per square meter,” not “webers/m².” Spell units when they appear in text: “...a few henries,” not “...a few H.” If your native language is not English, try to get a native English-speaking colleague to proofread your paper.

D. Format of References

Follow IEEE reference requirements when preparing your list of references. Number the citations consecutively in square brackets [1]. The sentence punctuation follows the brackets [2]. Multiple references [2], [3] are each numbered with separate brackets [1] – [3]. When citing a section in a book, please give the relevant page numbers [1]. In sentences, refer simply to the reference number, as in [3]. Do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] shows ...” Please do not use automatic endnotes in Word, rather, update your reference list following the samples provided at the end of this document for:

- A book with a single author [1], [2], with more than one author [3] and with three or more authors [4];
- Conference proceedings [5];
- Technical report [6];
- Patent/Standard [7];
- Papers presented at conferences (unpublished) [8];
- Thesis or dissertation [9];
- Chapters or parts of edited works included in collections or textbooks [10] – [11];
- Journal articles [12];
- E-Books [13] – [14];
- E-Journals [15] – [17];
- Internet documents [18] – [20];
- Non-book and other formats [21].

Papers that have been accepted for publication, but not yet specified for an issue should be cited as “to be published”. Papers that have been submitted for publication should be cited as “submitted for publication”. Please use the transliterated version of the names and sources in Cyrillic. For papers published in translation journals, please give the English citation first, followed by the original language citation.

VI. UNITS

Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.

Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to

confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.

VII. EXTENDED SUMMARY

The authors may be asked to prepare an extended summary of the publication which should be prepared as a separate file. The size of the extended summary should be about 1800 characters (no spaces). The summary should not be a repetition of the abstract from the beginning of the paper.

VIII. SOME COMMON MISTAKES

The word “data” is plural, not singular. The subscript for the permeability of vacuum μ_0 is zero, not a lowercase letter “o.” In American English, periods and commas are within quotation marks, like “this period.” A parenthetical statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical *sentence* is punctuated within the parentheses.) A graph within a graph is an “inset,” not an “insert.” The word *alternately* is preferred to the word “alternately” (unless you mean something that alternates). Do not use the word “essentially” to mean “approximately” or “effectively.” Be aware of the different meanings of the homophones “affect” and “effect,” “complement” and “compliment,” “discreet” and “discrete,” “principal” and “principle.” Do not confuse “imply” and “infer.” The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen. There is no period after the “et” in the Latin abbreviation “et al.” The abbreviation “i.e.” means “that is,” and the abbreviation “e.g.” means “for example.” An excellent style manual for science writers is [7].

IX. MANUSCRIPT REVIEWING

The submitted articles are peer-reviewed by two experts of the respective field to review manuscripts. The Editorial Team to the request of the author provides anonymous copies of the reviews. If the author is asked by the Editor to revise the manuscript it is reviewed anew.

REFERENCES

- [1] W.-K. Chen, *Linear Networks and Systems*. Belmont, CA: Wadsworth, 1993, pp. 123–135.
- [2] S. M. Hemmington, *Soft Science*. Saskatoon: University of Saskatchewan Press, 1997.
- [3] T. Jordan and P. A. Taylor, *Hactivism and Cyberwars: Rebels with a cause?* London: Routledge, 2004.
- [4] R. Hayes, G. Pisano, D. Upton, and S. Wheelwright, *Operations, Strategy, and Technology: Pursuing the competitive edge*. Hoboken, NJ: Wiley, 2005.
- [5] T. J. van Weert and R. K. Munro, Eds., *Informatics and the Digital Society: Social, ethical and cognitive issues: IFIP TC3/WG3.1&3.2 Open Conference on Social, Ethical and Cognitive Issues of Informatics and ICT*, July 22–26, 2002, Dortmund, Germany. Boston: Kluwer Academic, 2003.

- [6] K. E. Elliott and C.M. Greene, “A local adaptive protocol,” Argonne National Laboratory, Argonne, France, Tech. Rep. 916-1010-BB, 1997.
- [7] K. Kimura and A. Lipeles, “Fuzzy controller component,” U. S. Patent 14,860,040, December 14, 1996.
- [8] H. A. Nimr, “Defuzzification of the outputs of fuzzy controllers,” presented at 5th International Conference on Fuzzy Systems, Cairo, Egypt, 1996.
- [9] H. Zhang, “Delay-insensitive networks,” M. S. thesis, University of Waterloo, Waterloo, ON, Canada, 1997.
- [10] A. Rezi and M. Allam, “Techniques in array processing by means of transformations,” in *Control and Dynamic Systems*, vol. 69, Multidimensional Systems, C. T. Leondes, Ed. San Diego: Academic Press, 1995, pp. 133–180.
- [11] N. Osifchin and G. Vau, “Power considerations for the modernization of telecommunications in Central and Eastern European and former Soviet Union (CEE/FSU) countries,” in *Second International Telecommunications Energy Special Conference*, 1997, pp. 9–16.
- [12] E. P. Wigner, “Theory of traveling wave optical laser,” *Phys. Rev.*, vol. 134, pp. A635-A646, Dec. 1965.
- [13] L. Bass, P. Clements, and R. Kazman. *Software Architecture in Practice*, 2nd ed. Reading, MA: Addison Wesley, 2003. [E-book] Available: Safari e-book.
- [14] D. Ince, “Acoustic coupler,” in *A Dictionary of the Internet*. Oxford: Oxford University Press, 2001. [Online]. Available: Oxford Reference Online, <http://www.oxfordreference.com>. [Accessed May 24, 2005].
- [15] M. T. Kimour and D. Meslati, “Deriving objects from use cases in real-time embedded systems,” *Information and Software Technology*, vol. 47, no. 8, p. 533, June 2005. [Abstract]. Available: ProQuest, <http://www.umi.com/proquest/>. [Accessed: May 12, 2005].
- [16] H. K. Edwards and V. Sridhar, “Analysis of software requirements engineering exercises in a global virtual team setup,” *Journal of Global Information Management*, vol. 13, no. 2, p. 21+, April–June 2005. [Online]. Available: Academic OneFile, <http://find.galegroup.com>. [Accessed: May 31, 2005].
- [17] A. Holub, “Is software engineering an oxymoron?” *Software Development Times*, p. 28+, March 2005. [Online]. Available: ProQuest, <http://il.proquest.com>. [Accessed May 23, 2005].
- [18] European Telecommunications Standards Institute, “Digital Video Broadcasting (DVB): Implementation guidelines for DVB terrestrial services; transmission aspects,” *European Telecommunications Standards Institute*, ETSI TR-101-190, 1997. [Online]. Available: <http://www.etsi.org>. [Accessed: Aug. 17, 1998].
- [19] G. Sussman, “Home page - Dr. Gerald Sussman,” July 2002. [Online]. Available: <http://www.comm.pdx.edu/faculty/Sussman/sussmanpage.htm> [Accessed: Sept. 12, 2004].
- [20] “A ‘layman’s’ explanation of Ultra Narrow Band technology,” Oct. 3, 2003. [Online]. Available: <http://www.vmsk.org/Layman.pdf>. [Accessed: Dec. 3, 2003].
- [21] Thomson ISI, *EndNote 7*. [CD-ROM]. Berkeley, Ca.: ISI ResearchSoft, 2003.

First A. Author and other authors should provide a short (500..800 characters, no spaces) biography at the end of the paper. The first paragraph should contain information about the author’s educational background, scientific degrees and the years they have been earned. The author’s major field of study should be lower-cased.

The second paragraph should list work experience. The current job must have a location, while previous may be listed without one. Job titles are capitalized. Information concerning previous publications may be included (not more than three). The format of list is similar to that of references. Current and previous research interests end this part.

The third paragraph lists memberships in professional societies and awards. If a photograph is provided, the biography will be indented around it. The photograph (3cm × 4cm) is placed at the top left of the biography (use “Format Picture” – “Layout” – “Square” option).

Author’s contact data (if necessary) are placed at the end of the biography. The author is asked to provide his/her photo.