

Науково-практичний журнал

МЕТРОЛОГІЯ ТА ПРИЛАДИ

1/2024

Metrology and Instruments

Guidelines
for
Authors



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1 ABOUT THE SCIENTIFIC AND PRACTICAL JOURNAL "METROLOGY AND INSTRUMENTS"

The Scientific and Practical Journal "Metrology and Instruments" has been published since 2006. Included in the List of Scientific and Professional Publications of Ukraine category "B", technical sciences (as amended from 06.26.2024 No. 920) and in the International Scientific and Methodological Database Index Copernicus on 03.08.2013.

Since 2024, the Scientific and Practical Journal "Metrology and Instrumentation" is officially a scientific and practical journal, the founder of which is the Kharkiv National University of Radio Electronics and directly the Department of Information and Measurement Technologies (IMT) of KhNURE.

The journal is published twice a year in printed form (ISSN 2307-2180), stored in the library of KhNURE, also published in electronic form (ISSN electronic 2663-9564) (Open Journal system) website <https://mi.nure.ua> ("Archive" folder <https://mi.nure.ua/issue/archive>) All-Ukrainian Scientific and Educational Association "Uran" <https://uran.ua>, Scientific Journal of Ukraine <https://journals.uran.ua>.

What does the publication of an paper in the Scientific and Practical Journal "Metrology and Instruments" give to the author (metrologist, scientist, university teacher, graduate student, student)?

Having made a publication in the Scientific and Practical Journal "Metrology and Instruments", the author officially receives:

- confirmation of the results of the Scientific Research works;
- substantiation and confirmation of research of master's, candidate's and doctoral degree works;
- the author increases his scientific status, increases his scientific and metrical skills;

- the author (teacher, lecturer) ensures the fulfillment of the requirements of the Ministry of Education and science of Ukraine the number of confirmed types or results of the teacher's activity (item 1 Availability of at least five publications in periodical scientific publications included in the list of professional publications of Ukraine...);

- the author (student, master's student) receives the right to admission to post-graduate studies, having fulfilled one of the important requirements - the presence of a list of scientific works;

- the author makes a useful contribution by sharing experience on increasing the efficiency of practical metrological work in calibration, testing, and measuring laboratories of enterprises and organizations.

2 INDUSTRY, ISSUES, THEMATIC ORIENTATION

The editorial team of the journal publishes papers on specialty 175 - Information and measurement technologies.

Thematic areas according to which the editorial team of the scientific and practical journal publishes articles:

- theoretical metrology (development of measurement and testing methods, development of measuring equipment, theory of accuracy assessment, measurement uncertainties);

- applied metrology (metrological assurance of calibration works, metrological assurance of measurements in production, processing of results and evaluation of measurement uncertainties during tests, calibrations, reconciliations, organization and conduct of interlaboratory comparative tests, processing of their results);

- legal metrology, standardization, improvement of the regulatory base for assessment of measurement uncertainty, validation of testing and calibration methods, accreditation;

- information and measurement technologies (IMT) (information and measurement systems, theoretical aspects and practice of implementation of IMT in Industry 4.0, automation of the process of processing results and assessment of uncertainty in measurements; metrology cloud);

- qualimetry;

- assessment of conformity of products, services and software;

- quality management;

- peculiarities of teaching metrology and information-measuring technologies.

3 REQUIREMENTS FOR THE CONTENT AND RULES FOR THE DESIGN OF THE PAPER

3.1) The author submits an paper within the framework of the journal's topic (chapter 2 of these Guidelines for authors).

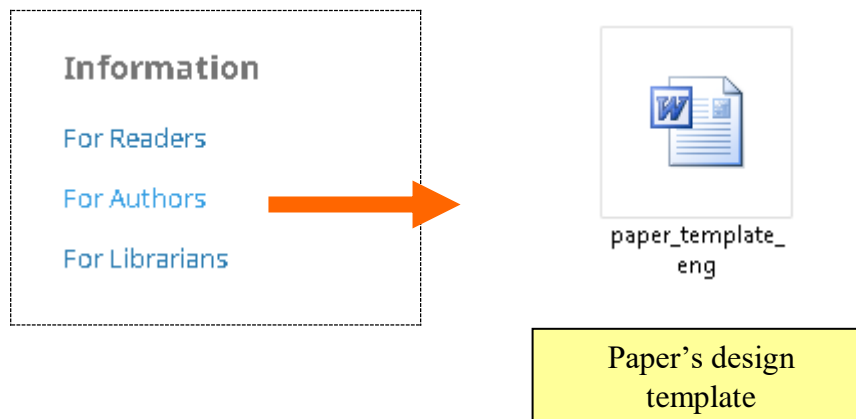
3.2) The paper must contain substantiated results of the author's research.

3.3) Structure of the text of the paper:

- **an introduction** with a general statement of the problem and its connection with important scientific or practical tasks, as well as an analysis of the latest research and publications on which the author relies;
- **the purpose** of the article (statement of the task);
- **a main material** of research with full justification of the obtained scientific results;
- **conclusions** from this study and prospects for further research in this direction;
- **a list** of references.

3.4) Requirements for the standardized design of the content of the article (text, formulas, figures, tables) (see on the next page).

(for convenience, the author can use a template file [paper_template_eng.doc](#) on the journal website in the section «For authors»)



TITLE OF PAPER

(font size – 14 pt; typing – semi-bold, line, alignment – centered, without indent)

M. Melnik¹, A. Possolo² (font size – 12 pt, typing – line, alignment – left)

¹Organization, city, country, e-mail

²Organization, city, country, e-mail (font size – 9 pt, typing – italics, alignment – in width)

Abstract

(The text of the abstract in English reflecting its essence: relevance, purpose, research methods, results and conclusions. Font size – 9 pt; typing – line, indent of the first line of the paragraph – 0.75 cm; alignment – in width).

Key words: 5–6 keywords in paper language (font size – 9 pt; typing – line, alignment – in width).

Formatting requirements:

Size of paper – from 4 pages in English or Ukrainian. The paper is to be submitted in electronic form for publication.

Sheet size: A4 (21 × 29,7 cm).

Page setup (margins): left – 2,25 cm; right – 2,25 cm; top – 2 cm; below – 2,5 cm.

Article font type – Times New Roman; alignment – centered; font size – 10 pt; line spacing – 1.

Article text is to be of two columns of equal width 8 cm with column-to-column distance 0,5 cm; first line indent – 0.75 cm; alignment – width. Do not use spaces, tabulation and etc. for formatting. Do not set the manual word wrap; do not use headers and footers. Set the non-breaking space between the value of the quantity and its unit of measurement (Ctrl + Shift + Space).

The text of the article shall have the next structure: **introduction** with setting of the problem in the general form and its relation to important scientific and practical tasks and analysis of the last achievements and publications by which author operates; **formulation of the article purpose** (setting the task); **statement of the main material** of investigation with full basis of the obtained results; **summaries** from this research and prospects of the future investigations in this direction; **references**.

The text of the article is to be divided in corresponding parts with subtitles which are highlighted by semi-bold font.

Subtitle (font size – 12 pt): semi-bold, alignment – centered, without spaces; alignment – left.

Formatting of equations: in format Math-Type, size 10 pt in factory setting. Alignment –

centered; mandatory numbering edge:

$$n_2 = \frac{d + \Delta L}{d} v_{eff} \cdot \quad (1)$$

Use italics for variables (*u*) and direct font for vectors (**u**), Greek lowercase and uppercase letters (α , Δ).

Figures are to be accompanied by captions (font size – 9 pt alignment – centered) (example in fig. 1, 2).

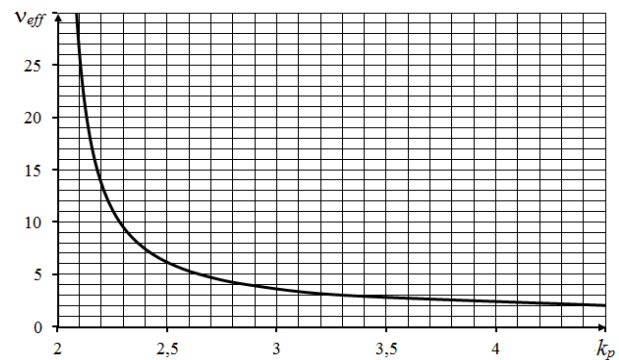


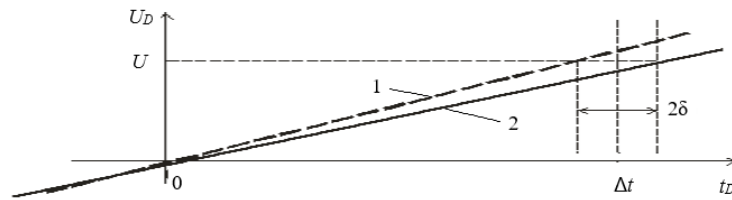
Fig. 1. Nomogram for finding v_{eff}

Table caption (font size – 9 pt) is **mandatory**, alignment centered.

Example in Table 1, 2

Table 1 – Thermometer readings

<i>i</i>	1	2	3	4	5	6
$T_{ci}, ^\circ\text{C}$	9.97	9.95	9.94	9.95	9.96	9.97
$T_{si}, ^\circ\text{C}$	9.98	9.97	9.96	9.97	9.98	9.98
$\Delta_t, ^\circ\text{C}$	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01



1 – with measurement error $-\delta$

2 – with measurement error $+\delta$

Fig.2. Graphic representation of dependence $U_D = f(t_D)$ for two thermoresistors

Table 2 – Coverage factors for the confidence level $p = 0,9545$ and relevant distribution laws

Values of coverage factors	1.411	1.653	1.653...1.927	1.927	2	>2
The law of distribution of the measured quantity	Arcsine	Even	Trapezoidal	Triangular	Normal	Student

References (is drawn up in the order of references in the paper, font size – 9 pt; typing – line, indent of the first line of the paragraph – 0.75 cm; alignment – in width).

For example:

1. Neyzhmakov P.I., Kupko O.D., Tereshchenko V.V. The current state of the metrological assurance of light measurements in Ukraine. *Ukrainian Metrological Journal*, 2017, no. 3. pp. 17–23 (in Ukrainian). doi: 10.24027/2306-7039.3.2017.114652
2. Oliynyk O., Taranenکو Yu., Shvachka A., Chorna O. Development of auto-oscillating system of vibration frequency sensors with mechanical resonator. *Eastern-European journal of enterprise technologies*, 2017, no. 85, pp. 56–60. doi: 10.15587/1729-4061.2017.93335
3. Mise en pratique for the definition of the kilogram in the SI. Available at: <https://www.bipm.org/utis/en/pdf/si-mep/SI-App2-kilogram.pdf> (accessed 25.05.2019).
4. State Standard 3607-97. Gas counters household. Acceptance rules and test methods. Kyiv, Derzhstandart Ukrainy, 1997. 24 p. (in Ukrainian).
5. Pavlenko Yu.F. (Ed.). Introduction to quantum metrology: a textbook for university students. Kharkiv, FOP Mezina V.V. Publ., 2017. 244 p. (in Ukrainian).

Анотація

(The text of the abstract in Ukrainian reflecting its essence: relevance, purpose, research methods, results and conclusions. Font size – 9 pt; typing – line, indent of the first line of the paragraph – 0.75 cm; alignment – in width).

Ключові слова: 5–6 keywords in Ukrainian (font size – 9 pt; typing – line, alignment – in width).

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2) another author

4 HOW TO SUBMIT AN ARTICLE TO THE JOURNAL'S EDITORIAL TEAM?

The article is designed according to the requirements in the form of a file ([paper_template_eng.doc](#)) and is submitted through the journal's website, the "Submissions" <https://mi.nure.ua/about/submissions>



Together with the paper, the author submits the document "Consent for the open publication of the article..." (see the form in Section 6, page 9 of these guidelines)

5 STEP ACCEPTANCE AN ARTICLE FOR PUBLICATION

Stages of article acceptance

5.1) Verification of compliance with the subject matter, structure (availability of the necessary sections), compliance with the standardized requirements for the design of the material (text, drawings, tables).

5.2) Checking the material for plagiarism. Verification takes place in the StrikePlagiarism system *StrikePlagiarism* <https://strikeplagiarism.com/en/> .

Articles containing at least 70% original content are accepted for publication. After a positive protocol, the article is submitted for review.

5.3) Reviewing the material of the article.

Reviewing is done confidentially (the reviewer will receive an article under a conditional number without indication of authorship).

The reviewer (a specialist in a certain field, which is confirmed by his scientific-metric indicators and scientific title) determines the relevance, scientific-practical value of the material of the article and its suitability for publication.

A positive review is the basis for accepting the article for publication in the current issue of the magazine.

6 COPYRIGHTS

The authors retain the copyright, and also grant the journal the right to publish original scientific articles containing the results of experimental and theoretical research and not under consideration for publication in other publications.

When submitting an article to the editorial board of the Scientific and Practical Journal "Metrology and Instruments", the author certifies by signing and submitting to the editorial board together with the article the document "*The author's consent to the open publication*", see page 10 of this guideline or the file "*The author's consent to the open publication_ MI_2024_en.doc*" on the journal's website in the section "Information for authors") that the submitted material:

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The author authorizes the editors of the scientific and practical magazine "Metrology and Instruments" ("Offer Agreement"):

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 - a) personal web resources of all authors (websites, web pages, blogs, etc.);
 - b) web resources of institutions where the authors work (including electronic institutional repositories).

In all cases, a bibliographic reference to the article or a hyperlink to its electronic copy on the journal's official website is mandatory.

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AND DISCLOSURE OF PERSONAL DATA**

(Full name of the author(s))

who is/are the author(s) of _____

 (title of the article)

Here by confirm that the submitted scientific article:

- is an independent and original work;
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- does not contain data prohibited for open publication in accordance with the current legislation of Ukraine;
- does not use any restricted materials and its publication will not lead to the disclosure of any secret (confidential) information (including state, official, and commercial secrets);
- is approved for publication by all co-authors and the institution where the research was carried out.

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Date

Signature Full name of the author(s)

7 RESOLUTION OF ISSUES INTERESTS OF PARTIES (EDITORIAL BOARD – AUTHOR)

The resolution of issues of the interests of the parties takes place on the basis of current legislative acts, standards, norms through reasonable communication between the author and the editorial board.

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