

Guidelines for manuscript preparation for the journal of Computer Optics

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Abstract

These guidelines aim to aid authors in manuscript preparation and ease the submission process to the journal of Computer Optics. They set forth rules for preparing a cover letter and all file packages to be submitted to the Journal, formatting the text body of the manuscript, key words, formulae, tables, illustrations, a list of references, acknowledgements, appendices, and authors' in-formation.

Key words: guidelines for manuscript preparation, computer optics, image processing, information optical technologies.

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Introduction

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Page layout

The A4 size paper should be used. Orientation – book (portrait). Mirror margins. Margins: Top – 25 mm, bottom – 30 mm, Internal – 23 mm, External – 17 mm. Upper headline – 15 mm. Bottom headline – 20 mm. Make sure to distinguish between the headlines of even and odd pages.

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The text body should be laid out in one columns. All abbreviations should be defined at their first appearance in the text and given in round brackets. Footnotes are not used in the Journal.

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Adhere to universally accepted international rules and agreements: use the international system of units (SI system). For units given in a different system, also give their SI equivalent.

Lowercase formulas typing around the dollar sign (\$) (for example, \$ "slash"frac{1}{2}\$): $\frac{1}{2}$.

Highlighted numbered formulas - for example: `$$$ BIG_Equation, "slash"eqno(1) $$$` :

$$BIG_{Equation}, \tag{1}$$

(Formula numbering example with manual formula numbering)

$$\begin{aligned} \mathcal{F}(P) &\geq \int_G \tilde{u}_1(s) I(s) d\sigma + \int_G \tilde{u}_2(\gamma(s)) I(s) d\sigma = \\ &= \int_G \mathcal{K}(s, \gamma(s)) I(s) d\sigma = \mathcal{F}(\gamma). \end{aligned} \tag{1}$$

$$\mathcal{F}(P) \geq \int_G \tilde{u}_1(s) I(s) d\sigma$$

$$\mathcal{F}(P) \geq \int_G \tilde{u}_1(s) I(s) d\sigma \tag{2}$$

(An example of numbering formulas with automatic setting of the formula number by the environment *equation*)

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The table title should be centered above table, including the word 'Table'. Tables are enumerated consecutively as they are mentioned in the text. The full stop is placed after the number and not after the table title.

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Acknowledgements

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Bibliography

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8. Article in a foreign periodical (journal) [8].
9. Article, chapter in a multivolume work [9].
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11. USSR invention certificate [11].
12. USA patent [12].
13. EU patent [13].
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15. GOST of the USSR [15].
16. ISO Standards [16].
17. Handbook [17].
18. Certificate of state registration of a computer program [18].
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(4, 7 – Examples of references with more than three authors).

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References (recommended format)

- [1] Soifer VA, ed. Diffraction nanophotonics [In Russian]. Moscow: "Fizmatlit" Publisher; 2011. ISBN: 978-5-9221-1237-6.
- [2] Volkov AV, Kazanskiy NL, Soifer VA, Uspleneyev GV. Technology of DOE fabrication. In Book: Soifer VA, ed. Methods of computer optics [In Russian]. Moscow: "Fizmatlit" Publisher; 2000: 239-310.
- [3] Soifer V, Kotlyar V, Doskolovich L. Iterative methods for diffractive optical elements computation. London: Taylor and Francis Ltd; 1997. ISBN: 0-7484-0634-4.
- [4] Golovashkin DL, Kazanskiy NL, Pavelyev VS, Soifer VA, Solovyev VS, Uspleniev GV, Volkov AV. Technology of DOE fabrication. In Book: Soifer VA, ed. Methods for computer design of diffractive optical elements. Chap 4. New York: John Wiley and Sons Inc; 2002: 267-345.
- [5] Born M, Wolf E. Principles of optics. Electromagnetic theory of propagation, interference and diffraction of light. 7th ed. Cambridge: Cambridge University Press; 1999. ISBN: 0-521-64222-1.
- [6] Prudnikov AP, Brychkov YA, Marichev OI. Integrals and series. Volume 2: Special functions. New York: Gordon and Breach; 1986. ISBN: 2-88124-097-6.
- [7] Khonina SN, Kotlyar VV, Skidanov RV, Soifer VA. Opto-digital system for identifying fingerprints in real time. J Opt Tech 2003; 70(8): 586-589. DOI: 10.1364/JOT.70.000586.
- [8] Doskolovich LL, Bykov DA, Andreeva KV, Kazanskiy NL. Design of an axisymmetrical refractive optical element generating required illuminance distribution and wavefront. J Opt Soc Am A 2018; 35(11): 1949-1953. DOI: 10.1364/JOSAA.35.001949.
- [9] Kadomcev BB. Dynamics and the Information. Izbrannye trudy : in 6 volumes [In Russian]. Moscow: "Fizmatlit" Publisher; 2003: 2; 508-515.
- [10] Kamanina NV, Shurpo NA, Vasil'ev PJa. Liquid-crystal space-time modulator of light based on complex of polyim-idequantum points of row CdSe(ZnS), CdS/ZnS, InP/ZnS for display, television equipment and systems of laser radiation switching [In Russian]. Pat RF of Invent N 2459223 of August 20, 2012, Russian Bull of Inventions N23, 2012.

- [11] Basharov AV, Solncev VA, Potemkin AS, Bogorodskiy VA, Smirnova EE. Photoelectric device for measuring the roughness of a metal surface [In Russian]. USSR Inventor's certificate SU 381885 of May 22, 1973, Russian Bull of Inventions N22, 1973.
- [12] Chang S-K, Hsu C-J. Method and apparatus for discrete-frequency tube-wave logging of boreholes. US Patent 5331604 of July 19, 1994.
- [13] Lobb DR. Imaging spectrometer. Patent EP 0961920 B1 of May 12, 2004.
- [14] GOST R IEC 60073-2000. The interface is human-machine. Marking and designation of governing bodies and control devices [In Russian]. Moscow: "IPK Izdatel'stvo Standartov" Publisher; 2000.
- [15] GOST 13088-67. Colorimetry. Terms, alphabetical symbols [In Russian]. – Moscow: "Izdatel'stvo standartov" Publisher; 1990.
- [16] ISO 10110-6:2015. Optics and photonics – Preparation of drawings for optical elements and systems – Part 6: Centring tolerances. 2nd ed. Vernier, Geneva, Switzerland: ISO; 2015.
- [17] Grigorjev IS, Mejlihov EZ, eds. Physical values: reference book [In Russian]. Moscow: "Energoatomizdat" Publisher; 1991.
- [18] Astafiev AV, Demidov AA, Privezentsev DG, Shardin TO. Radio beacon detection program based on Bluetooth Low Energy technology [In Russian]. Certificate of state registration of the computer program No. 2019661059 of August 19, 2019.
- [19] TracePro – software for design and analysis of illumination and optical systems. Source: <<https://www.lambdares.com/tracepro/>>.
- [20] Liu S, Li P, Wang M, Zhang P, Zhao J. Observation of abrupt polarization transitions associated with spin –orbit interaction of vector autofocusing Airy beams. In book: Frontiers in Optics. 2013. Source: <<https://www.osapublishing.org/abstract.cfm?uri=FiO-2013-FW1A.5>>. DOI: 10.1364/FIO.2013.FW1A.5.
- [21] Mongolia – Vocational education. 2021. Source: <<https://catalog.data.gov/sl/dataset/mongolia-vocational-education>>.
- [22] GraphQL. Source: <<https://github.com/topics/graphql>>.
- [23] Mishin AB. A method, an algorithm and the adaptive pro-cessing device of images on base KMOP-iVu with use of neurosimilar structures [In Russian]. The thesis for the Can-didate's degree in Technical Sciences. Kursk; 2014.

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