

Condensed Matter and Interphases (Kondensirovannye sredy i mezhfaznye granitsy)

Guide for Authors – 2020

<https://journals.vsu.ru/kcmf/authorguidelines>

Manuscripts should be submitted as single **Microsoft Word 2003** files.

Preferred font 12 pt Times New Roman (please, do not use any other fonts, except for Symbol), 1.5 spaced lines, 1.25 cm first-line indent. Decimal values (e.g. 0.1; 0.9; 2.3) should be written using a decimal point.

DOI: <https://doi.org/10.17308/kcmf.2020.22/0000>

eISSN 2687-0711

Received 10 January 2020

Accepted 15 February 2020

Published online 25 March 2020

Modelling of Interdiffusion and Phase Formation in Thin-Film Two-Layer Systems of Polycrystalline Oxides of Titanium and Cobalt

(all proper nouns should be capitalized; titles and subtitles should be left-aligned)

©2020 N. N. Afonin^{*a}, V.A. Logacheva^b

^aVoronezh State Pedagogical University,
86 ul. Lenina, Voronezh 394043, Russian Federation
(official name and address of the organisation)

^bVoronezh State University,
1 Universitetskaya pl., Voronezh 394018, Russian Federation

Abstract

The abstract should be 200-250 words and include the following sections.

Purpose: States the problem considered in the article, its importance, and the purpose of the research.

Experimental: Provides information about the objects being studied and the methods used.

Conclusions: Provides a brief description of the principal results, major conclusions, and their scientific and practical relevance.

Keywords: Please, provide 5-10 keywords for the principle concepts, results, and terms used in the article.

Funding: Please, list the organisations that provided the funding for the research.

The study was financially supported by the Russian Foundation for Basic Research (Grant No.)

For citation: Afonin N. N., Logacheva V. A. Modelling of interdiffusion and phase formation in the thin-film two-layer system of polycrystalline oxides of titanium and cobalt. *Kondensirovannye sredy i mezhfaznye granitsy = Condensed Matter and Interphases*. 2020; 22(1): 000-000. DOI: <https://doi.org/10.17308/kcmf.2020.22/0000>

*Nikolay N. Afonin, e-mail: nafonin@vspu.ac.ru (*the corresponding author*)

Article structure. The main text of the manuscript should have the following structure.

1. Introduction

THE INTRODUCTION (1–2 pages) states the problem under consideration, its relevance, and the most important tasks that need to be resolved. Describe the scientific problems which have not yet been solved and which you seek to solve in your research. The introduction should contain a short critical review of previously published works in this field and their comparative analysis. It is recommended that the analysis is based on 20-30 studies. **The purpose** of the article is implied by the problem statement.

The Vancouver reference style is used in the journal: bibliographic references in the text of the article are indicated by numbers in square brackets; in the references section, the references are numbered in the order they are mentioned in the text.

Example of references:

Equilibria involving indium and gallium halides are very important for the creation of new framework channels with metal clusters [1] in order to develop new optical sources [2,3] and perform the ultrapurification of the corresponding simple substances (metals).

References should primarily be made to original articles published in scientific journals indexed by global citation databases. It is advisable to use 20-30 sources with at least 20 being published over the past 3 years. References should indicate the names of all authors, the title of the article, the name of the journal, year of publication, volume (issue), number, pages, and DOI (Digital Object Identifier <https://search.crossref.org/>). If a DOI is lacking, a link to the online source of the article must be indicated. References to dissertation abstracts are acceptable, if the texts are available online. It is vital that our readers can find any of the articles or other sources listed in the reference section as fast as possible. Links to unpublished literature sources or sources not available online are unacceptable.

2. Experimental

The EXPERIMENTAL section (2–3 pages) provides the details of the experiment, the methods and the equipment used. The object of the study and the stages of the experiment are described in detail and the choice of research methods is explained.

3. Results and discussion

RESULTS AND DISCUSSION (6–8 pages) should be brief, but detailed enough for the readers to assess the conclusions made. It should also explain the choice of the data being analysed. Measurement units on graphs and diagrams are separated with a coma. **Formulae should be typed using Microsoft Office Equation 3 or Math Type** and aligned on the left side. Latin letters should be in italics. Do not use italics for Greek letters, numbers, chemical symbols, and similarity criteria.

All subheadings should be in italics.

Example

2.1. X-ray diffraction analysis

Example of figure captions in the text of the article: Fig. 1, curve 1, Fig. 2b.

A complete list of figures should be provided at the end of the paper after the information about the authors.

Figures and tables should not be included in the text of the article. They should be placed on a separate page. Figures should also be **submitted as separate *.tif, *.jpg, *.cdr, or *.ai** files. **All figures should have a minimum resolution of 300 dpi.** Name each figure file with the name of the first author and the number of the figure.

Example:

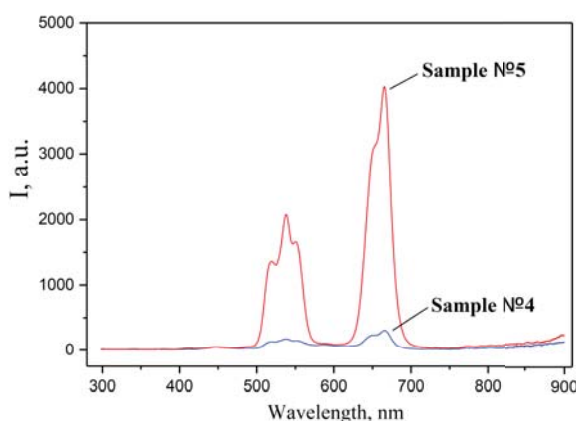


Fig. 5. Luminescence spectra of samples No. 4 and 5. The wavelength of the pumping laser is 974 nm

Example:

Table 1. Synthesis conditions and actual yield

Sample No.	Reference number	Annealing temperature, °C	Annealing time, hours	Concentrations of the starting materials, mol. (M, Ln)(NO ₃) _x :NaF:NaNO ₃	Actual yield, wt%
1	F1804	300	1	1:3:2	87.0
2	F1814	300	1	1:3:2	86.2
3	F1826	300	3	1:3:2	91.2
4	F1699	400	1	1:3:10	77.2
5	F1836	400	3	1:3:2	76.0

4. Conclusions

CONCLUSIONS (1 paragraph) should briefly state the main conclusions of the research. Do not repeat the text of the article. The obtained results are to be considered with respect to the purpose of the research. This section includes the conclusions, a summary of the results, and recommendations. It states the practical value of the research and outlines further research problems in the corresponding field.

Acknowledgements

List here those individuals who provided help during the research.

Conflict of interests

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

References

The references are to be formatted according to the **VANCOUVER STYLE**. The reference list should only include articles published in peer-reviewed journals.

Examples:

Reference to a journal publication

1. Afonin N. N., Logacheva V. A. Interdiffusion and phase formation in the Fe–TiO₂. *Semiconductors*. 2017;51(10): 1351–1356. DOI: <https://doi.org/10.21883/FTP.2017.10.45012.8531>

2. Domashevskaya E. P., Ryabtsev S. V., Min C., Ivkov S. A., Avilov S. V. Effect of the gas transport synthesis temperature on the ZnO crystal morphology. *Kondensirovannye sredy i mezhfaznye granitsy = Condensed Matter and Interphases*. 2016;18(4): 513–520. Available at: <https://journals.vsu.ru/kcmf/article/view/160/84>

Reference to a book

3. Kofstad P. *Nonstoichiometry, diffusion, and electrical conductivity in binary metal oxides*. Wiley-Interscience; 1972. 382 p.

4. McCafferty E. *Introduction to corrosion science*. New York: Springer; 2010. 583 p.

5. Vvedenskii A. V., Kozaderov O. A. Linear voltammetry of anodic selective dissolution of homogeneous metallic alloys. In: Saito Y., Kikuchi T. (eds.) *Voltammetry: theory, types and applications*. New York: Nova Science Publishers, Inc.; 2014. 363 p.

Reference to conference proceedings

6. Afonin N. N., Logacheva V. A., Khoviv A. M. Synthesis and properties of functional nanocrystalline thin-film systems based on complex iron and titanium oxides. In: *Amorphous and microcrystalline semiconductors: Proc. 9th Int. Conf., 7–10 July 2014*. St. Petersburg: Polytechnic University Publ.; 2014. p. 356–357.

Reference to online sources

7. NIST Standard Reference Database 71. *NIST Electron Inelastic-Mean-Free-Path Database: Version 1.2*. Available at: www.nist.gov/srd/nist-standard-reference-database-71

Information about the authors

This section should include the full last and first name(s) of the author(s), their academic degree, academic title, affiliation, position, city, country, e-mail, and ORCID (register for an ORCID here <https://journals.vsu.ru/kcmf/user/register>).

Example

Nikolay N. Afonin, DSc in Chemistry, Research Fellow, Professor at the Department of *Science and Technology Studies*, Voronezh State Pedagogical University, Voronezh, Russian Federation; e-mail: nafonin@vspu.ac.ru. ORCID iD: <https://orcid.org/0000-0002-9163-744X>.

Vera A. Logachova, PhD in Chemistry, Research Fellow at the Department of General and Inorganic Chemistry, Voronezh State University, Voronezh, Russian Federation; e-mail: kcmf@main.vsu.ru. ORCID iD: <https://orcid.org/0000-0002-2296-8069>.

Valery V. Voronov, PhD in Physics and Mathematics, Head of the Laboratory, Prokhorov General Physics Institute of the Russian Academy of Science, Moscow, Russian Federation; e-mail: voronov@lst.gpi.ru. ORCID iD: <https://orcid.org/0000-0001-5029-8560>.

All authors have read and approved the final manuscript.

Accompanying documents: *The following documents should be submitted as PDF files:* covering letter (with authorisation for open access publication)

license agreement (*signed by all authors*) <https://journals.vsu.ru/kcmf/navigationMenu/view/authorguidelines>

EDITING AND PROOFREADING

When the layout is ready it is sent back to the authors for proofreading. The article should be sent back to the publisher within a maximum of three days. The authors may only correct printing mistakes and introduce minor changes to the text or tables.