Jurnal Penelitian Fisika dan Aplikasinya (JPFA)

Jurnal Penelitian Fisika dan Aplikasinya (JPFA) - Journal of Physics Research and Its Application is a peer-reviewed journal that is managed by Department of Physics, Faculty of Mathematics and Natural Sciences, Universitas Negeri Surabaya and published by Universitas Negeri Surabaya in collaboration with Perkumpulan Pendidik IPA Indonesia (PPII). JPFA is published periodically (twice a year) in June and December. JPFA is available for free (open access) to all readers. The articles in JPFA include developments and researches in Physics Education, Classical Physics, and Modern Physics (theoretical studies, experiments, and its applications).

Person in Charge
Ketua Jurusan Fisika
Fakultas Matematika dan Ilmu Pengetahuan Alam
Universitas Negeri Surabaya

Editor in Chief
Prof. Dr. Budi Jatmiko, M.Pd.

Editorial Advisory Board
Prof. Rajesh Sharma, Ph.D., Arkansas State University, United States
Prof. Dr. Wolfgang W Schmahl, Ludwig-Maximilians-Universitat Munchen, Germany
Prof. Madya Dr. Hishamuddin Zainuddin, University Putra Malaysia, Malaysia
Assoc.Prof. Dr. Muhaimin Ismoen, Universiti Teknologi Brunei, Brunei Darussalam
Assoc.Prof. Dr. Chih-Hsiung Ku, National Dong Hwa University, Taiwan
Assoc.Prof. Dr. Massimo Brescia, INAF Astronomical Observatory of Capodimonte, Italy
Assoc.Prof. Simona Condurache-Bota, Ph.D., Dunarea de Jos University of Galaţi, Romania
Prof. Dr. Agus Subekti, Universitas Jember (UJ), Indonesia
Prof. Dr. Arif Hidayat, Universitas Negeri Malang (UM), Indonesia
Prof. C Cari, Ph.D., Universitas Sebelas Maret, Indonesia
Dr. P Parmin, Universitas Negeri Semarang, Indonesia
Prof. Dr. Ade Gafar Abdullah, Universitas Pendidikan Indonesia, Indonesia
Prof. Dr. M Madlazim, Universitas Negeri Surabaya (UNESA), Indonesia

Managing Editor
Utama Alan Deta, S.Pd., M.Pd., M.Si.

Main Handling Editor
Wayan Suparta, Ph.D.
Prof. Dr. Munasir, M.Si.
Nadi Suprapto, Ph.D.

Editorial Member
Endah Rahmawati, S.T., M.Si.
Mukhayyarotin Niswati Rodliyatul Jauhariyah, S.Pd., M.Pd.
Nurita Apridiana Lestari, S.Pd., M.Pd.
Meta Yantidewi, S.Si., M.Si.

Postal Address
Jurusan Fisika FMIPA Universitas Negeri Surabaya
Jl. Ketintang, Gedung C3 Lt 1, Surabaya 60231, Indonesia
Email: jpfa@unesa.ac.id
Website: http://journal.unesa.ac.id/index.php/jpfa

All articles published on JPFA are open access by following the Creative Commons: Attribution-NonCommercial 4.0 International license. Full license can be found here.
JPFA Peer-Reviewer

Prof. Dr. David Treagust, Curtin University, Australia
Asst.Prof. Jonathan Petruccelli, Ph.D., State University of New York (SUNY), United States
Prof. Dr. Jing-Wen Lin, National Taipei University of Education, Taiwan
Assoc. Prof. Dr. Hasan Said Tortop, Istanbul Esenyurt University, Turkey
Prof. Dr. Wiyanto, Universitas Negeri Semarang (UNNES), Indonesia
Prof. Dr. Darminto, Institut Teknologi Sepuluh November (ITS), Indonesia
Prof. Dr.-Ing. Setyawan Purnomo Sakti, Universitas Brawijaya (UB), Indonesia
Prof. Dr. Anto Sulaksono, Universitas Indonesia (UI), Indonesia
Prof. Dr. Bagus Jaya Santosa, Institut Teknologi Sepuluh November (ITS), Indonesia
Prof. Suparmi, Ph.D., Universitas Sebelas Maret (UNS), Indonesia
Prof. Dr. Sarwi, Universitas Negeri Semarang (UNNES), Indonesia
Prof. Dr. Agus Rubianto, Institut Teknologi Sepuluh November (ITS), Indonesia
Prof. Dr. Suminar Pratapa, Institut Teknologi Sepuluh November (ITS), Indonesia
Prof. Dr. Sutopo, Universitas Negeri Malang (UM), Indonesia
Prof. Dr. Ermant, Universitas Negeri Surabaya (UNESA), Indonesia
Prof. Dr. Wasis, Universitas Negeri Surabaya (UNESA), Indonesia
Prof. Dr. M. Yasin, Universitas Airlangga (UA), Indonesia
Prof. Dr. Tjipto Prastowo, Ph.D., Universitas Negeri Surabaya (UNESA), Indonesia
Agus Muhamed Hatta, Ph.D., Institut Teknologi Sepuluh November (ITS), Indonesia
Dr. Rories Rulamingtyas, Universitas Airlangga (UA), Indonesia
Dr. Ahmad Taufiq, Universitas Negeri Malang (UM), Indonesia
Dr. Eng. Risa Suryana, Universitas Sebelas Maret (UNS), Indonesia
Dr. Ramli, Universitas Negeri Padang (UNP), Indonesia
Dr. Eng. Didik Rahadi Santoso, Universitas Brawijaya (UB), Indonesia
Dr. Sarwanto, Universitas Sebelas Maret (UNS), Indonesia
Dr. Eny Latifah, Universitas Negeri Malang (UM), Indonesia
Dr. Sunaryono, Universitas Negeri Malang (UM), Indonesia
Dr. Lia Yuliani, Universitas Negeri Malang (UM), Indonesia
Dr. Sentot Kusairi, Universitas Negeri Malang (UM), Indonesia
Dr. Judhistira Ari Utama, Universitas Pendidikan Indonesia (UPI), Indonesia
Dr. Jeffry Handika, Universitas PGRI Madiun (UNIPMA), Indonesia
Dr. Riska Ekawita, Universitas Bengkulu (UNIB), Indonesia
Yuli Rahmawati, Ph.D., Universitas Negeri Jakarta (UNJ), Indonesia
Dr. Pujianto, Universitas Negeri Yogyakarta (UNY), Indonesia
Dr. Achmad Samsudin, Universitas Pendidikan Indonesia (UOI), Indonesia
Dr. Abdurrrahman, Universitas Lampung (Unila), Indonesia
Dr. Lilik Anifah, Universitas Negeri Surabaya (UNESA), Indonesia
Dr. Zainul Arifin Imam Supardi, Universitas Negeri Surabaya (UNESA), Indonesia
Dr. Eko Hariyono, Universitas Negeri Surabaya (UNESA), Indonesia
Dr. Binar Kurnia Prahana, Universitas Negeri Surabaya (UNESA), Indonesia
AUTHOR GUIDELINES FOR
JURNAL PENELITIAN FISIKA DAN APLIKASINYA (JPFA)

1. The objective of the Jurnal Penelitian Fisika dan Aplikasinya (JPFA) is to publish original research, thinking, viewpoints, and dissemination of knowledge in Physics and Physics Education.

2. All Articles published in JPFA are open access and have the CC-BY-NC license. Authors are required to include Statement of Open Access in the submission process of the Article.

3. The manuscript for JPFA is highly recommended to be sent online by registering in the JPFA’s website (http://journal.unesa.ac.id/index.php/jpfa). If you have a problem with the online submission, the Article can be sent to the JPFA’s email (jpfa@unesa.ac.id).

4. The manuscript must be written by at least 2 authors, preferably from different institution and country.

5. The type of the manuscript must be either the result of research (research article) or the result of review (review article).

6. The submitted manuscript has not been published or is not being considered for publication in another publisher. Author(s) must include Statement of Manuscript Authenticity in the Article submission process.

7. The manuscript should be written in English with the length of 6 to 15 pages.

8. The title of the manuscript is written in English (Times New Roman, size 12, bold) and Bahasa Indonesia (Times New Roman, size 11, bold).

9. The author’s name (without title) must be accompanied by the full name, full address of the affiliation (specific location, department, institution name, street, city, and country), and the email of each author.

10. Abstract is in the form of a paragraph, consisting of 300 words (maximum), and written in English and Bahasa Indonesia. Abstract uses Times New Roman, size 11, Italic. The abstract is a concise (short and clear) summary of your work. It should clearly state the background problem, the research objectives, the brief method, the main results/findings, and the conclusions, and should not include citations, tables, figures, and formulas. More information can be found in Template.

11. Keywords (maximum 5 words) are located under the abstract and written in English and Bahasa Indonesia.

12. The manuscript (Introduction, Research Method, Results and Discussion, and Conclusion) uses Times New Roman size 12, line spacing 1 line, A4 paper size (210 x 297 mm) with the margin is 2.25 cm on each side except the left side (2.5 cm). More details can be found in the Template.

13. The article sent to JPFA comes from original research article (the article originality or state of the art should be mentioned in the introduction part) or review article about physics and its application (see the scopes in JPFA).

14. The research article should contain title, author’s name(s), affiliation/institution, and postal address, abstract, keywords, PACS, introduction, method, results and discussion, conclusion and suggestion, acknowledgment, and references.

15. The review article contains title, author’s name(s), affiliation/institution, and postcard address, abstract, keywords, PACS, introduction, discussion, conclusion, acknowledgment, and references.

16. Introduction explains state of the art of the research, gap analysis, and research objectives/questions.

17. Method is written in full and detail so that it can be repeated by others (reproducible).

18. Results should summarize or highlight the findings rather than providing the detailed research results. Discussion must answers the problems, interprets the research results and the findings into the already known knowledge, confirms and/or contrasts with the research of other researchers, constructs the new theory, and/or modifies the previous theory. Discussion must also contain the implications of both theoretical and implementation results.

19. Conclusion must be able to answer the research objectives/questions and should not repeat the abstract or simply rewrite the experimental results.

20. The paragraph is written in justify. Inter-paragraph is given 5 character for left indentation.

21. The title of the figure uses Times New Roman size 10, center alignment, 1 line spacing, and placed at the bottom of the picture. The image file(s) is in .jpg, .bmp, or .png format and must be attached in separate file(s) with the Article.

22. When quoting pictures, charts, or photographs from other publications, the author shall specify the source and obtain the permission from its Author. Copyright Permission Request Form is attached in the JPFA’s Author Pack.

23. Tables are typed in 1 line spacing, decimal places are used as position references, and zeros must be stated (e.g., 0.333 and not .33). Columns and rows in the table should be titled. The title of the table is capitalized for the first letter of each word. The table title is placed at the top of the table. The font size is 10 pt or adjustable. Examples of the table format can be seen in the Template.

24. Diagram, schematic, chart, or flowchart use Times New Roman, 1 line spacing. Font size is 10 pt or adjustable.
25. Equation(s) is numbered with Arabic numerals on the right in parentheses. The equation should use the International System (SI) and its standard abbreviations. Decimal sign uses a period for an article in English (example: 0.5). Abbreviations should be avoided unless they have been defined previously or a commonly used abbreviation. Footnotes are not allowed.

26. Any financial or other substantive conflicts of interest that may affect the outcome or interpretation of the research should be written down in the manuscript. All sources of financial or non-financial support of research should also be written in the Acknowledgments section.

27. A reference list is placed at the end of the manuscript, the references are numbered with Arabic numerals and referred in the manuscript by writing the numbers in square brackets, for example: "[1]". The numbering of the references is based on its sequence in the manuscript. An example of writing the references can be seen in the Template.

28. The article should use at least 80% of the newest references (not more than 10 years) and consists of (at least) 80% article from a scientific journal.

29. The author(s) may suggest potential peer reviewer for his/her manuscript and also may propose unwanted individual/reviewer to review his/her manuscript, such as due to conflicts of interests. More info can be seen in the Peer-review Policy.

30. All articles submitted to JPFA will be read and reviewed blindly (double blind peer review) by (minimum) 2 Peer-reviewers who are experts in their field. The acceptance of a manuscript depends on the novelty of research, significance of the article, truth of the content, the degree of originality, the clarity of description, and the conformity with the objective of the journal.

31. The editorial board authorized to accept, return the manuscript for revision, and/or reject the submitted manuscript.

32. The template can be downloaded from http://journal.unesa.ac.id/index.php/jpfa. For further information, please contact JPFA Editorial Board via email jpfa@unesa.ac.id.
# TABLE OF CONTENTS

**Effect of Sintering and Concentration of Dymethylformamide on Surface Properties of Hydroxyapatite Coating on Titanium Substrate Fabricated by Electrophoretic Deposition**  
*Mochammad Dachyar Effendi, Razie Hanafi, Utari Pusparini, Sara Aisyah Syafira*  
90-102

**Development of Non-Invasive Blood Glucose Level Monitoring System using Phone as a Patient Data Storage**  
*Riska Ekawita, Ahmad Azmi Nasution, Elfi Yuliza, Nursakinah Suardi, Suwarsono Suwarsono*  
103-113

**Analysis of Tsunami Inundation due in Pangandaran Tsunami Earthquake in South Java Area Based on Finite Faults Solutions Model**  
*Ramadhan Priadi, Dede Yunus, Berlian Yonanda, Relly Margiono*  
114-124

**Design of Low-Cost and Simple Reconstruction Method for Three Dimensional Electrical Impedance Tomography (3D-EIT) Imaging**  
*Endarko Endarko, Ari Bangkit Sanjaya Umbu*  
125-136

**Reconstruction of High Resolution Medical Image Using General Regression Neural Network (GRNN)**  
*Yudha Satya Perkasa, Khoerun Nisa Syaja’ah, Lyana Ismadelani, Rena Denya Agustina*  
137-145

**The Existence of Fourier Coefficients and Periodic Multiplicity Based on Initial Values and One-Dimensional Wave Limits Requirements**  
*Adi Jufriansah, Azmi Khusnani, Arief Hermanto, Mohammad Toifur, Erwin Prasetyo*  
146-157

**The Effectiveness of Modeling Instruction Learning on Students’ Conceptual Understanding of Rotational Dynamic**  
*Sherly Verlinda, Sutopo Sutopo, Eny Latifah*  
158-172

**The Effect of Non-Seasonal Climate Variations on Extreme Rainfall Events in Early Rainy Season Onset in Southeast West Java Province**  
*Agus Safril, Hadi Saputra, Siswanto Siswanto, Aulia Nisa’ul Khoir, Aditya Kusuma Al Arif*  
173-187