

Proceedings of the International Conference on Modern Electrical and Energy Systems, MEES 2019 · Pages 102 - 105 · September 2019 · Article number 8896451 · 2019 IEEE International Conference on Modern Electrical and Energy Systems, MEES 2019 · Kremenchuk · 23 September 2019 through 25 September 2019 · Code 154452

Dependence of the Indicators of Three-phase Transformers with Planar Plate Magnetic Wires from Variants of Rod Configuration

Stavinskii, Andrey^a ; Shebanin, Vyacheslav^a ;

Avdieieva, Elena^b ; Tsyganov, Aleksandr^a ;

Stavinskiy, Rostislav^b ; Sadovoy, Oleksiy^a

Save all to author list

^a Mykolayiv National Agrarian University, Mykolaiv, Ukraine

^b Admiral Makarov National University of Shipbuilding, Mykolaiv, Ukraine

8 93th percentile Citations in Scopus | 2,98 FWCI | 46 Views count [View all metrics](#) >

Full text options Export

Abstract

Author keywords

Indexed keywords

SciVal Topics

Metrics

Indexed keywords

SciVal Topics

Metrics

Abstract

Traditional and circular of forming the contours of the cores of the magnetic cores and winding coils are characterized by known disadvantages. The possibility is shown and the digital values of reducing the mass, cost and active power losses of three-phase transformers and reactors with planar lamellar magnetic cores are shown when replacing the circular forming loops of rods and winding coils with hex and octahedral loops. © 2019 IEEE.

Author keywords

comparison; configuration; cost; lamellar magnetic circuit; loss; mass; reactor; Three-phase transformer

Indexed keywords

SciVal Topics

Metrics

References (14)

[View in search results format](#) >

All [Text export](#) [Print](#) [E-mail](#) [Save to PDF](#) [Create bibliography](#)

- 1 Lizunova, S.D., Lohanina, A.K. (2004) *Power Transformers: Reference Book: Ed.*, p. 616. Cited 29 times. Moscow: Energoatomizdat, (in Russian)
- 2 Lazarev, V.I. Generalization of research results on the problem of electrodynamic resistance of power transformers (2005) *Tekhnichna Elektrodinamika*, (1), pp. 53-60. Cited 3 times.
- 3 Gura, K.Y. Energy efficient distribution transformers (2010) *Electrician. International Electrotechnical Journal*, 58 (3), pp. 8-12. Cited 2 times.
- 4 Stavinsky, A.A. The genesis of the structures and prerequisites for the improvement of transformers and reactors by the transformation of the circuits of electromagnetic systems (electrodynamic stability and systems with butt magnetic circuits) (2011) *Electrical Engineering and Electrical Engineering*, (6), pp. 33-38.
- 5 Khatri, A., Rahi, O.P. Optimal design of transformer: A Compressive bibliographical survey (2012) *International Journal of Scientific Engineering Technology*, pp. 159-167. Cited 27 times. April
- 6 Tikhomirov, P.M. (2013) *Calculation of Transformers: A Textbook for Universities*, p. 528. Cited 29 times. Moscow: Alliance
- 7 Kostinsky, S.S. Overview of the state of the transformer industry and the trends in the design of power transformers. News of higher educational institutions (2018) *Energy Problems*, 20 (1-2), pp. 14-32. [Cited 5 times](#).
- 8 Yuen, D.C.M., Choi, V., Gao, L.Z., Han, J. **The first 110KV /35KV - 31.5MVA cast resin transformer** (2004) *Conference Record - IAS Annual Meeting (IEEE Industry Applications Society)*, 2, pp. 763-767. Cited 6 times. ISBN: 0780384865 doi: 10.1109/IAS.2004.1348500 [View at Publisher](#)
- 9 Gao, Y., Wang, S., Gao, H. **A new type of dry power transformer based on XLPE cable winding** (2005) *ICEMS 2005: Proceedings of the Eighth International Conference on Electrical Machines and Systems*, 3, art. no. 1575061, pp. 1771-1774. ISBN: 7506274078; 978-750627407-4
- 10 Vani, A., Sree Rama Chandra Murthy, P. **An automated tool for analyzing dissolved gases in power transformers and SF6 in switch gears using Artificial Intelligence approaches** (2015) *Journal of Electrical Engineering*, 15 (2), pp. 262-274. <http://www.jee.ro/covers/art.php?issue=WU1417242585W547967d98b2af>
- 11 Hu, D., Li, Z., Hong, Z., Jin, Z. **Development of a single-phase 330kVA HTS transformer using GdBCO tapes** (2017) *Physica C: Superconductivity and its Applications*, 539, pp. 8-12. Cited 30 times. <http://www.journals.elsevier.com/physica-c-superconductivity-and-its-applications/> doi: 10.1016/j.physc.2017.06.002 [View at Publisher](#)
- 12 Najafi, A., Iskender, I. (2017) *Comparison of Core Loss and Magnetic Flux Distribution in Amorphous and Silicon Steel Core Transformers Electrical Engineering*, pp. 1-7. Cited 4 times.
- 13 Stavinsky, A.A., Stavinsky, R.A., Avdeeva, E.A. Optimization comparative analysis of the structures of static electromagnetic systems (2014) *Part 1 Variants and Method for Evaluating Transformations Electricity*, (9), pp. 34-43. Cited 8 times.
- 14 Stavinskii, A., Plakhtyr, O., Tsyganov, A., Stavinskiy, R. **Possibilities of improving the transformers and reactors on the basis of multiple counters of the rods** (2017) *Proceedings of the International Conference on Modern Electrical and Energy Systems, MEES 2017*, 2018-January, pp. 176-179. ISBN: 978-153861750-2 doi: 10.1109/MEES.2017.8248882 [View at Publisher](#)

© Copyright 2020 Elsevier B.V., All rights reserved.

Cited by 8 documents

Reserves for improving the efficiency of thermal power stations: external on-site energy examination
Yevtukhov, V., Dunaievskaya, N., Bondzyk, D. (2023) *Polityka Energetyczna*

Reduction of Numerical Arrays in Magnetometry Problems Calculations
Biliuk, I., Shareyko, D., Fomenko, L. (2022) *Proceedings of the 2022 IEEE 4th International Conference on Modern Electrical and Energy System, MEES 2022*

Technical Solutions of Laminated Magnetic Cores of Transformers with Combination of Electrical Steel
Stavinskii, A., Koshkin, D. (2021) *Proceedings of the 20th IEEE International Conference on Modern Electrical and Energy Systems, MEES 2021*

[View all 8 citing documents](#)

Inform me when this document is cited in Scopus:

[Set citation alert](#) >

Related documents

DESIGN AND TECHNOLOGICAL PROPOSALS FOR IMPROVING A SINGLE-PHASE TRANSFORMER WITH LAMINATED MAGNETIC CORE
Stavinskii, A.A., Tsyganov, A.M. (2020) *Electrical Engineering and Electromechanics*

Comparison of the Active Parts of Single-Phase Transformers with Twisted and Laminated Magnetic Circuits
Sadovoy, O., Avdieieva, E., Valkhonina, L. (2021) *Proceedings of the 20th IEEE International Conference on Modern Electrical and Energy Systems, MEES 2021*

Technological Parameters of the Magnetic Circuit of the Compact Transformer for Aggregate Electric Drive
Avdieieva, E., Stavinskiy, R., Sadovoy, O. (2020) *Proceedings of the 25th IEEE International Conference on Problems of Automated Electric Drive. Theory and Practice, PAEP 2020*

[View all related documents based on references](#)

Find more related documents in Scopus based on:

[Authors](#) > [Keywords](#) >

About Scopus

[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語版を表示する](#)
[查看简体中文版本](#)
[查看繁體中文版本](#)
[Просмотр версии на русском языке](#)

Customer Service

[Help](#)
[Tutorials](#)
[Contact us](#)