

ABSTRACT&REFERENCES

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ANALYSIS AND COMPARISON OF «STYLE» AND «ECLECTICISM» NOTIONS IN THE THEORY OF ARCHITECTURE

p. 6-12

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The concepts of «style» and «eclecticism» in the theory of architecture are considered. It is shown that eclecticism can be understood as a phenomenon, style direction or creative professional method depending on the position of the researcher and the aspect of consideration. In the modern period between the concepts of «style» and «eclecticism» there is no longer a sharp antagonism. By some signs, eclecticism can be considered as a stylistic direction in which neo-stylistic movements coexist, revived according to the principle of «revival». The basis of the formation of the style is always a certain ideological program, the postulates of which influence the formation of the creative method

Keywords: principle of «revival», historical thinking, ideological program, stylistic direction, creative method

References

- Giedion, S. (1922). Spätbarocker und romantischer Klassizismus. München: Bruckmann, 240.
- Hitchcock, H. R. (1976). Early Victorian Architecture in Britain. New York, 50.
- Mignot, C. (1983). Architecture of the 19th century. Tashen verlag, GmbH, 322.
- Brokgauz, F. A., Yefron, I. A. Entsiklopedicheskiy slovar' [Encyclopedic Dictionary]. Available at: <http://www.vehi.net/brokgauz/>
- Khomutetskiy, N. F. (1938). Arkhitektura epokhi imperializma (konspekt lektsiy): 1937/38 uchebnyy god [Khomutetskiy NF Architecture of the era of imperialism (lecture notes): 1937/38 academic year]. Leningrad: Architectural Foundation of the Union of Sov. architects. Refresher courses for architects of the periphery, 32.
- Khomutetskiy, N. F. (1955). Arkhitektura Rossii s serediny XIX veka po 1917 god (po materialam Moskvyy i Peterburga) [Architecture of Russia from the mid-19th century to 1917 (based on materials from Moscow and St. Petersburg)]. Leningrad, 32.
- Punin, A. L. (1966). Idei «ratsional'noy arkhitektury» v teoreticheskikh vozzreniyakh russkikh zodchikh vtoroy poloviny XIX – nachala XX vv [Ideas of “rational architecture” in the theoretical views of Russian architects of the second half of the XIX – beginning of the XX centuries]. Leningrad, 28.
- Khan-Magomedov, S. O. (1996). Arkhitektura sovetского avangarda. Kniga 1. Problemy formoobrazovaniia. Mastera i techeniia. Moscow: Stroizdat, 22–24.
- Bezsonov, S. V. (Ed.) (1956). Istoriya russkoy arkhitektury [History of Russian architecture]. Moscow: Gos. izd-vo literatury po stroitel'stvu i arkhitekture, 614.
- Bol'shaya sovet'skaya entsiklopediya [Great Soviet Encyclopedia]. Available at: <http://bse.sci-lib.com/article125562.html>
- Borisova, Ye. A. (1979). Russkaya arkhitektura vtoroy poloviny XIX veka [Russian architecture of the second half of the XIX century]. Moscow: Science, 319.
- Kirichenko, Ye. I. (1978). Russkaya arkhitektura 1830-kh – 1910-kh godov [Russian architecture of the 1830s – 1910s.]. Moscow: Iskusstvo, 295.
- Ikonnikov, A. V. (1977). Istorizm v arkhitekture [Historicism in architecture]. Moscow: Stroyizdat, 559.
- Meier-Oberist, E. (1925). Das neuzeitliche hamburgische Kunstgewerbe in seinen Grundlagen. Ein Beitrag zur Kulturgeschichte des 19. Jahrhunderts. Hamburg: Thormann, 394.
- Savitskaya, T. Ye. (2016). Ponyatiye «istorizm» i sovremennyye muzeynyye praktiki (na materiale kollektsii Radishchevskogo muzeya v Saratove) [The concept of «historicism» and modern museum practices (based on the collection of the Radischevsky Museum in Saratov)]. Grad Kitezh russkogo iskusstva. Saratov, 155–156.
- Tubli, M. P. (2018). Modern: «stil'» ili «epokha»? [Art nouveau: «style» or «epoch»?]. Arkhitekturnii almanakh, 3, 18–26. Available at: <https://archi.ru/lib/publication.html?id=1850570183>
- Goryunov, V. S. (2012). Eklektika ili istorizm? K voprosu o terminologii istoriko-arkhitekturnykh issledovaniy [Eclectic or historicism? To the question of terminology of historical and architectural research]. Arkhitektura epokhi istorizma: Traditsii i novatorstvo. Saint-Petersburg, 7–11.
- Goryunov, V. S. (2012). Istorizm v arkhitekture. Istoriosofskiy aspekt [Historicism in architecture. Historiosophical aspect]. Vestnik grazhdanskikh inzhenerov, 1, 9–13.
- Savel'yev, Yu. R. (2005). «Vizantiyskiy stil'» v arkhitekture Rossii. Vtoraya polovina XIX – nachalo XX veka [“Byzantine style” in the architecture of Russia. The second half of XIX – early XX century]. Saint Petersburg: Liki Rossii, 272.
- Vinkel'man, I.-I. (1933). Istoriya iskusstva drevnosti [History of Art of Antiquity]. Moscow, 432.
- Berger, L. G. (1994). Prostranstvennyy obraz mira (paradigma poznaniya) v strukture khudozhestvennogo stilya [The spatial image of the world (the paradigm of knowledge) in the structure of the artistic style]. Vo prosy filosofii, 4, 114–128.
- Remyzova, E. Y. (2000). Ponyatiye o mnozhestvennosti arkhitekturnykh yazykov [Concept about the plurality of architectural languages]. Traditsiya ta novatsiya u vyshchiy arkhitekturno-khudozheniy osviti, 2-3, 182–188.

23. Losev, A. F. (1994). Problema khudozhestvennogo stilya [Problem of Art Style.]. Kyiv: «Collegium», «Kiyevska Akademiya Yevrobiznesa», 286.

24. Khan-Magomedov, S. O. (1981). Stilevoye yedinstvo ili eklektika? [Stylistic unity or eclecticism?]. Decorative art of the USSR, 4, 19–21.

25. Revzin, G. I. (1992). Neoklassitsizm v russkoy arkhitekture nachala XX veka [Neoclassicism in Russian architecture of the early 20th century]. Moscow, 168. URL: <http://books.totalarch.com/node/1888>

26. Kaplun, A. I. (1985). Stil' i arkhitektura [Style and architecture]. Moscow: Stroyizdat, 232.

27. Kirichenko, Ye. I. (2012). Istorizm – stil' arkhitektury XIX stoletiya [Historicism – the style of architecture of the XIX century]. Arkhitektura epokhi istorizma: traditsii i novatorstvo. Saint-Petersburg, 12–23.

28. Kudryashova, I. V. (2007). Romanticheskyy metod v zapadnoyevropeyskoy arkhitekture XIX veka [The Romantic Method in the Western European Architecture of the 19th Century]. Kharkiv, 20.

29. Linda, S. M. (2013). Istoryzm u rozvytku arkhitektury [History in the development of architecture]. Lviv, 36.

30. Shylo, A. V. (2008). Voprosy stilya y metoda v teoryi y praktyke konstruktivyzma. Khudozhnia kultura [Questions of style and method in the theory and practice of constructivism. Art culture]. Actual problems, 5, 461–494.

31. Ginzburg, M. Ya. (1924). Stil' i epokha. Problemy sovremennoy arkhitektury [Style and epoch. Problems of modern architecture]. Moscow: Gosudarstvennoye izdatel'stvo, 238.

32. Shteynberh, Ya. A. (1930). Do proektu Budivelnoho Instytutu v m. Kharkovi [To the project of the Building Institute in Kharkiv]. Construction, 10-11, 283–288.

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DEVELOPMENT OF THE METHOD OF CYBERNETIC PLANNING AS A TOOL OF THE MODERN DEVELOPMENT DEVELOPMENT OF

p. 13-18

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In order to implement qualitative economic transformations in the country from the priorities of consumer use of natural resources to innovative technologies of “conscious” planning of the economy, it is necessary to take into account environmental priorities that are of strategic importance for the entire population of the state. As of today, it is the method of cybernetic planning that is able to combine environmental, administrative and economic and social components when creating a model of a future protected object or territory.

The cybernetic planning method is an innovative method, a symbiosis of state environmental imperatives and strategic economic objectives. The creation and expansion of protected areas are the priority tasks of the state policy of Ukraine, so a mechanism is proposed that will meet the needs of the modern market economy of the country and society; have a permanent informational basis; high-quality remote control tools and the possibility of forming a project “turnkey”

Keywords: natural reserve fund, sustainable development, method of cybernetic modeling, environmental principles, economic growth

References

1. Bogdanecz, V. A., Vlayev, A. A. (2014). GIS Mapping of Lands of Natural Reserve Fund. Pryroda Zakhidnoho Polissia ta prylehlykh terytorii, 11, 40–44. Available at: http://www.nbu.gov.ua/UJRN/Pzp_2014_11_8 Last accessed: 15.05.2019

2. Shevchuk, V. V., Ivanik, O. M., Lavrenyuk, M. V., Lavrenyuk, V. I. (2012). Modelling of the Impact of Hazardous Geological Processes on the Functionality of Pipe-Transporting Nature-Technical Systems. Geological Journal, 2, 66–73. doi: <http://doi.org/10.30836/igs.1025-6814.2012.2.139059>

3. Gvozdyak, V. M. (2006). The mathematical modeling' features of organic systems. Filosofskiy almanakh, 56. Available at: https://www.filosof.com.ua/Jornel/M_56/Hvosdiak.htm Last accessed: 10.04.2019

4. Samoilenko, V. M., Korogoda, N. P. (2006). The econet's geoinformation modeling. Kyiv: Nika-Centr, 224. Available at: <https://www.twirpx.com/file/1920936/> Last accessed: 02.04.2019

5. Kovalchuk, I., Mkrtychyan, O., Mikhnovich, A. (2017). The potential of geoinformation technologies in solving constructive and geographic problems. Ecological geography, 10, 49–59. Available at: <http://geography.lnu.edu.ua/wp-content/uploads/2017/10/52623592.pdf> Last accessed: 07.06.2019

6. Peresadko, V. A., Bodnya, O. V. (2010). Geographical modeling of national natural parks. Kharkiv: Nika, 28. Available at: <https://core.ac.uk/download/pdf/46588426.pdf> Last accessed: 07.05.2019

7. Allan, K. (2014). Achieving resilience in the cyber ecosystem. Insights on governance, risk and compliance, 27. Available at: [https://www.ey.com/Publication/vwLUAssets/cyber_ecosystem/\\$FILE/EY-Insights_on_GRC_Cyber_ecosystem.pdf](https://www.ey.com/Publication/vwLUAssets/cyber_ecosystem/$FILE/EY-Insights_on_GRC_Cyber_ecosystem.pdf) Last accessed: 13.04.2019

8. Linkov, I., Kott, A. (2018). Fundamental Concepts of Cyber Resilience: Introduction and Overview. Cyber Resilience of Systems and Networks. Berlin: Springer, 1–25. doi: http://doi.org/10.1007/978-3-319-77492-3_1

9. MacKinnon, M., Rampado, S., D'Souza, S., Bryski, J. (2016). The changing faces of cybersecurity – Closing the cyber risk gap. Canada: Deloitte Design Studio, 44. Available at: <https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/risk/ca-cyber-talent-campaign-report-pov-aoda-en.PDF> Last accessed: 17.06.2019

10. Law Nature Reserve Fund of Ukraine (1992). Zakon Ukrainy No. 2456-XII. 16.06.1992. Available at:

<http://zakon5.rada.gov.ua/laws/show/2456-12> Last accessed: 20.04.2019

11. On Approval of Methodological Recommendations on the projects' development for the creation of natural territories and nature reserve fund's objects (2018). The Order of Ministry Ecology and Natural Resources of Ukraine No. 306. 18.08.2018. Available at: <https://zakon.rada.gov.ua/rada/show/v0306737-18> Last accessed: 20.04.2019

12. Hill, R., Figgis, P. (1999). A conservation initiative: ACF Wilderness and Indigenous Landscapes Policy. *Habitat Australia*, 27 (1), 8–19.

13. Wezemaal, V., Joris, E. (2010). Modulation of Singularities – a Complexity Approach to Planning Competitions. *The Ashgate Research Companion to Planning Theory. Conceptual Challenges for Planning Theory*, 6 (61). Available at: https://www.academia.edu/705122/Modulation_of_Singularities_a_Complexity_Approach_to_Planning_Competitions_In_The_Ashgate_Research_Companion_to_Planning_Theory_Conceptual_Challenges_for_Planning_Theory_Eds_Jean_Hillier_and_Patsy_Healey_Ashgate Last accessed: 20.03.2019

14. Karadimitriou, N. (2010). Cybernetic Spatial Planning: Steering, Managing or Just Letting Go? *Conceptual Challenges for Spatial Planning*, 425–446. Available at: <http://discovery.ucl.ac.uk/1328462/> Last accessed: 02.04.2019

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ANALYSIS OF THE USE OF E-LEARNING PROJECTS CONTEMPORARY INSTRUMENTS

p. 19-24

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The article describes the main stages of the e-learning management project, examines the main structural errors and errors in the process of creating courses and organizing training. The main groups of risks for the e-learning project are identified. The list of technological standards and regulations for e-learning project is given. A review of the features of specialized software is provided. Methodological recommendations for evaluating the effectiveness of e-learning project are developed

Keywords: e-learning project, pedagogical design, teaching aids, system of distance learning

References

1. Radicioni, B. (2018). New study: distance education up, overall enrollments down. *Babson Research Study*. Available at: <https://www.babson.edu/about/news-events/babson-announcements/babson-survey-research-group-tracking-distance-education-report/>

2. Santra, S. (2019). Trends That Will Transform The Online Education Industry In 2019. *Franchise India Education*. Available at: <https://www.franchiseindia.com/education/trends-that-will-transform-the-online-education-industry-in-2019.12478>

3. Johnson, H. (2007). Dialogue and the construction of knowledge in e-learning: Exploring students' perceptions of their learning while using Blackboard's asynchronous discussion board. *European Journal of Open, Distance and E-Learning*, 1. Available at: http://www.eurodl.org/materials/contrib/2007/Henry_Johnson.htm

4. Protasov, M. (2012). Oshybyky upravlenyia e-learning-proektamy. *Spravochnyk po upravlenyiu personalom*, 3, 24–29.

5. Hrabovskyi, Y. M. (2019). Analysis of the use of multimedia components in modern mobile learning technologies. *ScienceRise*, 4 (57), 46–50. doi: <http://doi.org/10.15587/2313-8416.2019.164597>

6. Hrabovskyi, Y. M. (2018). Designing the intelligent user interface for electronic education support systems. *ScienceRise*, 11 (52), 36–39. doi: <http://doi.org/10.15587/2313-8416.2018.147987>

7. Banciu, V., Gordan, M., Stanciu, S. (2012). The Social Benefits of E-learning in the Study of Foreign Languages in Romanian Education. *International Conference on Management and Education Innovation IPEDR*, 37, 101–105. URL: <http://www.ipedr.com/vol37/021-IC-MEI2012-E00044.pdf>

8. Major, C. (2015). *Teaching Online: A Guide to Theory, Research, and Practice*. Johns Hopkins University Press, 336.

9. Terras, M. M., Ramsay, J. (2012). The five central psychological challenges facing effective mobile learning. *British Journal of Educational Technology*, 43 (5), 820–832. doi: <http://doi.org/10.1111/j.1467-8535.2012.01362.x>

10. Farwell, T. (2013). Keeping an Online Class Interesting and Interactive. *Distance Learning*, 10 (3), 27–32.

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AUTOMATIC DETERMINATION OF A SPEAKER'S GENDER BASED ON THE CAUCHY DISTRIBUTION IN THE OCTAVE FREQUENCY BAND

p. 25-29

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Algorithms for recognition of a speaker's gender based on the use of the Cauchy distribution in the octave frequency band with a geometric mean frequency of 125 Hz are obtained. Classifiers based on the maximum logarithm of the likelihood function are constructed. The algorithm for determining the

speaker's gender is considered, where not only the logarithm of the Cauchy distribution in the octave frequency band is taken into account, but also estimates of the average value of the formant frequencies and the antiformant frequencies. Studies of the probability of correct recognition of the speaker's gender determination algorithms are carried out

Keywords: *Cauchy distribution, formant frequencies, antiformant frequencies, moment functions, gender recognition*

References

1. Kalyuzhnyi, A. Ya., Semenov, V. Yu. (2009). Metod identifikatsii pola diktora na osnove modelirovaniya akusticheskikh parametrov golosa gaussovyimi smesyami. *Akustichnyi visnik*, 12 (2), 31–38.
2. Scheme, E., Castillo-Guerra, E., Englehart, K., Kizhanatham, A. (2006). Practical Considerations for Real-Time Implementation of Speech-Based Gender Detection. *Progress in Pattern Recognition, Image Analysis and Applications*. Berlin, Heidelberg: Springer, 426–436. doi: http://doi.org/10.1007/11892755_44
3. Pribil, J., Pribilova, A., Matousek, J. (2016). GMM-based speaker gender and age classification after voice conversion. 2016 First International Workshop on Sensing, Processing and Learning for Intelligent Machines (SPLINE). IEEE, 1–5. doi: <http://doi.org/10.1109/splim.2016.7528391>
4. Omelchenko, S. (2018). Development of the method of automatic determination of the speaker gender on the basis of joint evaluation of frequency moments of basic tones and formant frequencies. *Technology Audit and Production Reserves*, 3 (2 (41)), 29–33. doi: <http://doi.org/10.15587/2312-8372.2018.134977>
5. Buyukyilmaz, M., Cibikdiken, A. O. (2016). Voice Gender Recognition Using Deep Learning. *Proceedings of 2016 International Conference on Modeling, Simulation and Optimization Technologies and Applications (MSOTA2016)*. Atlantis Press, 409–411. doi: <http://doi.org/10.2991/msota-16.2016.90>
6. Levitan, S. I., Mishra, T., Bangalore, S. (2016). Automatic identification of gender from speech. *Proceeding of Speech Prosody*, 84–88. doi: <http://doi.org/10.21437/speechprosody.2016-18>
7. Faek, F. (2015). Objective Gender and Age Recognition from Speech Sentences. *Aro, The Scientific Journal of Koya University*, 3 (2), 24–29. doi: <http://doi.org/10.14500/aro.10072>
8. Harb, H., Liming, C. (2003). Gender identification using a general audio classifier. 2003 International Conference on Multimedia and Expo. ICME'03. *Proceedings (Cat. No.03TH8698)*. IEEE. doi: <http://doi.org/10.1109/icme.2003.1221721>
9. Sorokin, V. N., Makarov, I. S. (2008). Opredelenie pola diktora po golosu. *Akusticheskii zhurnal*, 54 (4), 659–668.
10. Zeng, Y., Wu, Z., Falk, T., Chan, W. (2006). Robust GMM Based Gender Classification using Pitch and RASTA-PLP Parameters of Speech. 2006 International Conference on Machine Learning and Cybernetics. Dalian, 2006. P. 3376–3379. doi: <https://doi.org/10.1109/icmlc.2006.258497>

11. Presniakov, I. N., Omel'chenko, S. V. (2003). Pomehoustoichivye algoritmy segmentatsii rechi v sistemah obrabotki [Interference-free speech segmentation algorithms in processing systems]. *Radiotekhnika*, 131, 165–173.

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TECHNIQUE OF DEVELOPMENT OF INFORMATION AND TECHNICAL METHOD OF LOCALIZATION OF EMERGENCY SITUATIONS OF MEDICAL AND BIOLOGICAL CHARACTER OF THE REGIONAL DANGER DISTRIBUTION LEVEL

p. 30-34

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The paper analyzes the current state of danger of the emergence and spread of emergency situations of a medical-biological nature, caused by human infectious diseases in Ukraine. The assumption of the impact on the process of emergency distribution of natural factors: humidity and ambient temperature, the dynamics of movement of air masses is substantiated. An approach to modeling the processes of prevention and localization of emergency situations of a medical-biological nature is proposed. On the basis of the latter, the structure of the information technology of localization of emergency situations of a medical-biological nature is determined

Keywords: *emergency situation, hazards of a medical and biological nature, localization, information technical method*

References

1. Shevchenko, R. I. (2018) Formuvannya matematychnoi modeli orhanizatsiino-tekhnichnoho metodu skorochnennia nehatyvnykh naslidkiv nadzvychainykh sytuatsii medyko-biolohichnoho kharakteru rehionalnoho rivnia poshyrennia nebezpeky. *Komunalne hospodarstvo mist. Serii: Tekhnichni nauky ta arkhitektura*, 142, 124–131.
2. Prokopenko, O. V., Shevchenko, R. I. (2018). Informatsiina pidtrymka zakhodiv z lokalizatsii nadzvychainykh sytuatsii medyko-biolohichnoho kharakteru. Suchasni napriamy rozvytku informatsiino-komunikatsiinykh tekhnolohii ta zasobiv upravlinnia. *Baku-Kharkiv-Zhilina*, 84.
3. Analitichnyi ohliad stanu tekhnolohii ta pryrodnoi bezpeky v Ukraini za 2018 rik. Available at: <https://>

www.dsns.gov.ua/ua/Analitichniy-oglyad-stanu-tehnogenoyi-ta-prirodnoyi-bezpeki-v--Ukrayini-za-2015-rik.html

4. Shevchenko, R. I. (2018). Formuvannya alhorytmu ta protsedur orhanizatsiino-tekhnichnoho metodu skorochennia nehatyvnykh naslidkiv nadzvychainykh sytuatsii medyko-biologichnoho kharakteru rehionalnoho rivnia poshyrennia nebezpeky. Problemy nadzvychainykh sytuatsii, 27, 175–186.

5. Zhuang, Y. (2017). Constructing Effective Mechanism of Reflection on Major Accidents Zhang Supei. China Safety Science Journal, 11. Available at: http://oversea.cnki.net/kns55/oldNavi/n_Catalog.aspx?NaviID=48&Flg=local&YearID

6. Qian, Y., Juncheng, J., Hanhua, Y. (2012). Research on the Emergency Response System of Major Dangerous Chemical Accident on Highway based on the GIS. Procedia Engineering, 45, 716–721. doi: <http://doi.org/10.1016/j.proeng.2012.08.229>

7. Xianfu, F., Zaoping, F., Yansong, H. (2012). Analysis on Chemical Industry Park Emergency Drill Escape Paths based on WebGIS. Procedia Engineering, 45, 721–726. doi: <http://doi.org/10.1016/j.proeng.2012.08.230>

8. Management in the Case of Strong Earthquakes. Information Technology180 for Disaster Management (2001). A collection of selected international papers. Asian Disaster Reduction Center. Kobe, 94–105.

9. Li, Q., Ruan, W., Shao, W., Huang, G. (2012). Information disclosure in an environmental emergency. Disaster Prevention and Management: An International Journal, 26 (2), 134–147. doi: <http://doi.org/10.1108/dpm-06-2016-0125>

10. Ouyang, Z., Wei, J., Xiao, Y., Wang, F. (2017). Media attention and corporate disaster relief: evidence from China. Disaster Prevention and Management: An International Journal, 26 (1), 2–12. doi: <http://doi.org/10.1108/dpm-10-2015-0247>

11. Martin, N., Rice, J. (2012). Emergency communications and warning systems: Determining critical capacities in the Australian context. Disaster Prevention and Management: An International Journal, 21 (5), 529–540. doi: <http://doi.org/10.1108/09653561211278671>

12. Yeo, J., Comfort, L. K. (2017). An expected event, but unprecedented damage: Structure and gaps of large-scale response coordination of the 2011 Thailand floods. Disaster Prevention and Management: An International Journal, 26 (4), 458–470. doi: <http://doi.org/10.1108/dpm-02-2017-0048>

13. Guo, X., Kapucu, N. (2015). Network performance assessment for collaborative disaster response. Disaster Prevention and Management: An International Journal, 24 (2), 201–210. doi: <http://doi.org/10.1108/dpm-10-2014-0209>

14. Azarenko, E. V., Goncharenko, Iu. Iu., Diviziniuk, M. M., Kovach, V. E. (2015). Chrezvychainye situatsii, obuslovlennye informatsionnymi potokami. Pravove, normativne ta metrologichne zabezpechennia sistemi zakhistu informatsii v Ukraini, 2, 21–25.

15. Strilets, V. M., Borodych, P. Yu., Rosokha, S. V. (2012). Zakonomirnosti diialnosti riativalnykh pry pro-

vedenni avariino-riativalnykh robit na stantsiiakh metropolitenu. Kharkiv: KP «Miska drukarnia», 112.

16. Babaryka, I. H., Yeremenko, S. A., Kryvulkin, I. M., Lievtierov, O. A., Shevchenko, R. I. (2018). Rozvytok innovatsiinykh metodiv skorochennia naslidkiv nadzvychainykh sytuatsii pryrodnoho kharakteru. Problemy nadzvychainykh sytuatsii, 28, 27–38.

17. Romaniukha, A. A. (2012). Matematicheskie modeli v immunologii i epidemiologii infektsionnykh zabolevanii. Moscow: BINOM. Laboratoriia znani, 293.

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ANALYSIS OF THE ROTATIVE POTENTIAL OF TWO-FREQUENCY OSCILLATION OF WATER MOLECULE

p. 35-39

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The rotational oscillations of a water molecule are considered using the model of a two-frequency physical pendulum and it is shown that the type of its potential is correctly described as toroidal. It is shown that the ellipticity of the toroidal potential in a non-uniform force field decreases with an increase in the exponent n than for an ellipsoidal one, however, both potentials become close. A decrease in the ellipticity of the toroidal potential in this field can lead to the expansion of the region of existence of elliptical-like oscillations of the two-frequency pendulum towards its lower speeds

Keywords: water molecule, two-frequency pendulum, inhomogeneous field of forces, toroidal potential

References

1. Antonchenko, V. Ia., Davydov, A. S., Ilin, V. V. (1991). Osnovy fiziki vody. Kyiv: Naukova Dumka, 672.

2. Eizenberg, D., Kautzman, V. (1975). Struktura i svoistva vody. Leningrad: Gidrometeoizdat, 280.

3. Bersuker, I. B. (1987). Effekt Iana – Tellera i vibronnye vzaimodeistviia v sovremennoi khimii. Moscow: Nauka, 344.

4. Malafayev, N. T. (2011). About interactions and dynamics of molecules in pure water. Eastern-European Journal of Enterprise Technologies, 52 (4 (8)), 48–58. Available at: <http://journals.uran.ua/eejet/article/view/1465/1363>

5. Malafayev, N. T., Pogozhikh, N. I. (2015). Features rotational of vibrations of water molecules. Eastern-European Journal of Enterprise Technologies, 2 (5 (74)), 27–35. doi: <http://doi.org/10.15587/1729-4061.2015.40569>

6. Malenkov, G. G. (2006). Structure and dynamics of liquid water. Journal of Structural Chemistry, 47 (1), 5–35. doi: <http://doi.org/10.1007/s10947-006-0375-8>

7. Zel'dovich, B. Y., Soileau, M. J. (2004). Bi-frequency pendulum on a rotary platform: modeling various optical phenomena. *Uspekhi Fizicheskikh Nauk*, 174 (12), 1337–1354. doi: <http://doi.org/10.3367/ufnr.0174.200412e.1337>

8. Kondratev, B. P., Dubrovskii, A. S., Trubitsyna, N. G., Mukhametshina, E. Sh. (2008). Prostranstvennii potentsial odnorodnogo krugovogo tora cherez ekvigravitiruiushchie element. *Zhurnal tekhnicheskoi fiziki*, 78 (7), 132–135.

9. Higgs, J. M., Petersen, B. V., Lammert, S. A., Warnick, K. F., Austin, D. E. (2016). Radiofrequency trapping of ions in a pure toroidal potential distribution. *International Journal of Mass Spectrometry*, 395, 20–26. doi: <http://doi.org/10.1016/j.ijms.2015.11.009>

10. Wu, S.-T., Chen, Y.-R., Wang, S.-S. (2011). Two-degree-of-freedom rotational-pendulum vibration absorbers. *Journal of Sound and Vibration*, 330 (6), 1052–1064. doi: <http://doi.org/10.1016/j.jsv.2010.09.028>

11. Malafaev, N. T. (2016). Rotational oscillations of water molecules as oscillations of a spherical pendulum in an inhomogeneous field of forces. *ScienceRise*, 2 (2 (19)), 62–69. doi: <http://doi.org/10.15587/2313-8416.2016.60587>

12. Water Models. Available at: <http://www.lsbu.ac.uk/water/models.html>

13. Makhlaichuk, P. V., Malomuzh, M. P., Zhyganiuk, I. V. (2013). Dimerization of water molecules modeling of the attractive part of the interparticle potential in the multipole approximation. *Ukrainian Journal of Physics*, 58 (3), 278–288. doi: <http://doi.org/10.15407/ujpe58.03.0278>

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INCREASE OF EFFICIENCY OF EDUCATIONAL AND TRAINING PROCESS OF STUDENTS OF MILITARY HIGHER EDUCATIONAL INSTITUTIONS OF UKRAINE

p. 40-44

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The methods of arm wrestling and the peculiarities of their implementation in the training process of training of cadets of military higher educational institutions of Ukraine are analyzed. It is proposed to implement these methods during physical training sessions by combining technical techniques and methods into a rational chain of motor activities. The interrelation and interdependence of the structure of movements and the level of development of physical qualities under the conditions of the use of methods of arm wrestling during the period of successive exercises on simulators and with partners during independent training by physical training is substantiated

Keywords: arm sport, exercises, training process, physical qualities, physical training

References

1. Alekseev, N. A., Kutergin, N. B., Kulinichev, A. N. (2013). Sovershenstvovanie fizicheskoi podgotovki kursantov i slushatelei obrazovatelnykh uchrezhdenii MVD Rossii. *Fizicheskoe vospitanie studentov*, 1, 3–6.

2. Kaya, I. (2015). Investigating the Effects of Maximal Strength Training on Wrestlers' Physical, Physiological and Selected Motor Skills. *The Anthropologist*, 20 (3), 592–598. doi: <http://doi.org/10.1080/09720073.2015.11891763>

3. Ivanytskyi, B. V., Martyn, V. D. (2012). Armsport u vyshchyykh navchalnykh zakladakh. Lviv: LDUFK, 78.

4. Petrenko, V. O. (2000). *Zalizni ruky*. Kharkiv, 96.

5. Biddle, S. J., Wang, C. J., Chatzisarantis, N. L., Spray, C. M. (2003). Motivation for physical activity in young people: entity and incremental beliefs about athletic ability. *Journal of Sports Sciences*, 21 (12), 973–989. doi: <http://doi.org/10.1080/02640410310001641377>

6. Konik, A. A. (2012). Metodicheskie osobennosti podgotovki nachinaushchikh armborcov. Belgorod: BUKEP, 276–282.

7. Gierczuk, D., Bujak, Z. (2013). The analysis of coordination training means used in the training of wrestlers. *Journal of Combat Sports and Martial Arts*, 4 (1 (2)), 19–23. doi: <http://doi.org/10.5604/20815735.1072230>

8. Pravyla zmahan z armsportu. *Ukrainska federatsiia armsportu* (2003). Kharkiv, 56.

9. Visek, A. J., Watson, J. C., Hurst, J. R., Maxwell, J. P., Harris, B. S. (2010). Athletic identity and aggressiveness: A cross-cultural analysis of the athletic identity maintenance model. *International Journal of Sport and Exercise Psychology*, 8 (2), 99–116. doi: <http://doi.org/10.1080/1612197x.2010.9671936>

10. Mikshis, A. N., Pavlov, S. V. (2012). Soglasovannost taktiko-tekhnicheskikh deistvii v armsporte. *Biulleten medicinskoj internet-konferencii*, 2 (2), 77.

11. Kutergin, N. B., Tkachenko, A. I., Kulinichev, A. N. (2013). Fizicheskoe sovershenstvovanie kursantov obrazovatelnykh uchrezhdenii pravookhranitelnykh organov sredstvami podvizhnykh igr. *Fizicheskoe vospitanie studentov*, 6, 30–33.