

Slovenská technická univerzita v Bratislave

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Články v časopisoch

AMBROZ, M. – MIKULA, K. – FRAŠTIA, M. – MARČIŠ, M. Parameter estimation for the forest fire propagation model. *Tatra Mountains Mathematical Publications*, s. 1–22.

Kľúčové slová: parameter estimation, curve evolution, data assimilation

ANDOVA, V. – DIMOVSKI, P. – KNOR, M. – ŠKREKOVSKI, R. On three constructions of nanotori. *Mathematics*, 8. s. 11.

Kľúčové slová: general honeycomb torus, regular map, nanotorus

ARIAS-GARCÍA, J D J. – MESIAR, R. – DE BAETS, B. A hitchhiker's guide to quasi-copulas. *Fuzzy Sets and Systems*, s. 1–28.

Kľúčové slová: n-copula, aggregation function, n-quasi-copula

ASICI, E. – MESIAR, R. Alternative approaches to obtain t-norms and t-conorms on bounded lattices. *Iranian Journal of Fuzzy Systems*, 17. s. 121–138.

Kľúčové slová: bounded lattice, triangular norm, triangular conorm

ASICI, E. – MESIAR, R. New constructions of triangular norms and triangular conorms on an arbitrary bounded lattice. *International Journal of General Systems*, 49. s. 143–160.

Kľúčové slová: t-conorm, t-norm, bounded lattices

BACZYŃSKI, M. – JAYARAM, B. – MESIAR, R. Fuzzy implications: alpha migrativity and generalised laws of importation. *Information Sciences*, s. 87–96.

Kľúčové slová: fuzzy implication, fuzzy connective, t-norm

BALLOVÁ, D. Detecting long term and abrupt changes of river overflows in Slovakia. *Communications In Statistics: Case Studies, Data Analysis and Applications*, 6. s. 383–391.

Kľúčové slová: time series, change-point, trend

BESSY, S. – DROSS, F. – HRIŇÁKOVÁ, K. – KNOR, M. – ŠKREKOVSKI, R. Maximal Wiener index for graphs with prescribed number of blocks. *Applied Mathematics and Computation*, s. 2020.

Kľúčové slová: graphs with given number of blocks, maximal Wiener index, Wiener index

BESSY, S. – DROSS, F. – HRIŇÁKOVÁ, K. – KNOR, M. – ŠKREKOVSKI, R. The structure of graphs with given number of blocks and the maximum Wiener index. *Journal of Combinatorial Optimization*, 39. s. 170–184.

Kľúčové slová: Wiener index, distance, graph theory

BESSY, S. – DROSS, F. – KNOR, M. – ŠKREKOVSKI, R. Graphs with the second and third maximum Wiener indices over the 2-vertex connected graphs. *Discrete Applied Mathematics*, s. 195–200.

Kľúčové slová: Wiener index, distance, gross status

BUSTINCE, H. – MESIAR, R. – KOLESÁROVÁ, A. – DIMURO, G P. – FERNANDEZ, J. – DIAZ, I. – MONTES, S. On some classes of directionally monotone functions. *Fuzzy Sets and Systems*, s. 161–178.

Kľúčové slová: pre-aggregation functions, directional monotonicity

CONDER, M. – ŠIRÁŇ, J. Classification of regular maps of prime characteristic revisited: Avoiding the Gorenstein-Walter theorem. *Journal of Algebra*, s. 120–133.

Kľúčové slová: automorphism group, regular map, non-orientable surface

ČUNDERLÍK, R. – MEDĽA, M. – MIKULA, K. Local quasigeoid modelling in Slovakia using the finite volume method on the discretized Earth's topography. *Contributions to Geophysics and Geodesy*, 50. s. 287–302.

Kľúčové slová: fixed gravimetric boundary value problem, finite volume method, local quasigeoid modelling

DIMURO, G P. – FERNÁNDEZ, J. – BEDREGAL, B. – MESIAR, R. – SANZ, J A. – LUCCA, G. – BUSTINCE, H. The state-of-art of the generalizations of the Choquet integral: From aggregation and pre-aggregation to ordered directionally monotone functions. *Information Fusion*, s. 27–43.

Kľúčové slová: Choquet integral, pre-aggregation functions, aggregation functions

DIMURO, G P. – LUCCA, G. – BEDREGAL, B. – MESIAR, R. – SANZ, J A. – LIN, C. – BUSTINCE, H. Generalized C-F1F2-integrals: From Choquet-like aggregation to ordered directionally monotone functions. *Fuzzy Sets and Systems*, s. 44–67.

Kľúčové slová: Choquet integral, pre-aggregation functions, aggregation function

DORIA, S. – MESIAR, R. – ŠELIGA, A. Construction method of coherent lower and upper previsions based on collection integrals. *Bollettino dell'Unione Matematica Italiana*, 13. s. 469–476.

Kľúčové slová: construction method, coherent lower prevision, collection integral

DORIA, S. – MESIAR, R. – ŠELIGA, A. Integral representation of coherent lower previsions by super-additive integrals. *Axioms*, 9. s. 2.

Kľúčové slová: collection integral, coherent lower prevision, super-additive integral, shift-invariance

ERSKINE, G. – GRIGGS, T. – ŠIRÁŇ, J. On the upper embedding of symmetric configurations with block size 3. *Discrete Mathematics*, 343. s. 4.

Kľúčové slová: upper embedding, configuration

ERSKINE, G. – HRIŇÁKOVÁ, K. – JEANS, O R. Self-dual, self-Petrie-dual and Möbius regular maps on linear fractional groups. *The Art of Discrete and Applied Mathematics*, 3. s. 2020.

Kľúčové slová: self-dual map, regular map, external symmetry

FAN, L. – ŠPIRKOVÁ, J. – MESIAR, R. – YAGER, R R. – JIN, L. Multi-criteria fuzzy comprehensive evaluation in interval environment with dual preferences. *Journal of Intelligent and Fuzzy Systems*, 39. s. 1361–1369.

Kľúčové slová: information fusion, multi-criteria decision-making, aggregation operator

Články v časopisoch

FAN, L. – YAGER, R R. – MESIAR, R. – JIN, L. Two-level multi-criteria comprehensive evaluation for preference vectors in online shopping platform evaluation. *Journal of Intelligent and Fuzzy Systems*, 39. s. 7921–7930.

Kľúčové slová: online shopping, aggregation operators, decision making

FERNANDEZ, J. – BUSTINCE, H. – HORANSKÁ, L. – MESIAR, R. – STUPŇANOVÁ, A. A generalization of the Choquet integral defined in terms of the Möbius transform. *IEEE Transactions on fuzzy systems*, 28. s. 2313–2319.

Kľúčové slová: Choquet integral, fuzzy measure, aggregation function

FRANKLIN, S B. – OLEJNICZAK, P. – SAMULAK, E. – ŠIBÍKOVÁ, M. – BACIGÁL, T. – NECHAJ, J. – ŠIBÍK, J. Clonal plants in disturbed mountain forests: Heterogeneity enhances ramet integration. *Perspectives in Plant Ecology, Evolution and Systematics*, s. 2020.

Kľúčové slová: clonal plant, integration, Tatra Mountains

FUMANAL-IDOCIN, J. – ALONSO-BETANZOS, A. – CORDÓN, O. – BUSTINCE, H. – MINÁROVÁ, M. Community detection and social network analysis based on the Italian wars of the 15th century. *Future generations computer systems*, s. 25–40.

Kľúčové slová: community detection, social networks, human social behaviour

GÄRTTNER, S. – FROLKOVIČ, P. – KNABNER, P. – RAY, N. Efficiency and accuracy of micro–macro models for mineral dissolution. *Water Resources Research*, 56. s. 2020.

Kľúčové slová: mineral dissolution, models accuracy, model's efficiency

GHAFFARI, A. – SAADATI, R. – MESIAR, R. Inequalities in Triangular Norm-Based \square -Fuzzy $(L^+)^p$ Spaces. *Mathematics*, 8. s. 11.

Kľúčové slová: fuzzy measure space, fuzzy integration, t-norm

GHOSH, D. – CHAUHAN, R S. – MESIAR, R. – DEBNATH, A K. Generalized Hukuhara Gâteaux and Fréchet derivatives of interval-valued functions and their application in optimization with interval-valued functions. *Information Sciences*, s. 317–340.

Kľúčové slová: gH-directional derivative, gH-continuity, interval-valued function

GRIGGS, T. – MCCOURT, T A. – ŠIRÁŇ, J. On the upper embedding of Steiner triple systems and Latin squares. *Ars Mathematica Contemporanea*, 18. s. 127–135.

Kľúčové slová: Latin square, upper embedding, Steiner triple system

HAIT, S R. – GUHA, D. – CHAKRABORTY, D. – MESIAR, R. Generalization and extension of partitioned Bonferroni mean operator to model optional prerequisites. *International Journal of Intelligent Systems*, 35. s. 891–919.

Kľúčové slová: Bonferroni mean (BM), aggregation function

HANDLOVIČOVÁ, A. Finite volume scheme for AMSS model. *Tatra Mountains Mathematical Publications*, s. 49–62.

Kľúčové slová: image processing, finite volume schemes, affine morphological scale space

HORANSKÁ, Ľ. – BUSTINCE, H. – FERNANDEZ, J. – MESIAR, R. Generalized decomposition integral. *Information Sciences*, s. 415–427.

Kľúčové slová: Choquet integral, Shilkret integral, decomposition integral, capacity

HORANSKÁ, Ľ. – SARKOCI, P. A note on the copulas invariant with respect to (a, b)-transformation. *Fuzzy Sets and Systems*, 378. s. 157–164.

HUBOVÁ, O. – FRANEK, M. – MACÁK, M. Numerical and experimental determination of wind load on photovoltaic panel assemblies. *Gradevinski materijali i konstrukcije = Building Materials and Structures*, 63. s. 49–63.

Kľúčové slová: wind load, CFD, boundary layer wind tunnel, photovoltaic panels

HUDEC, M. – MESIAR, R. The axiomatization of asymmetric disjunction and conjunction. *Information Fusion*, s. 165–173.

Kľúčové slová: or-else operators, averaging functions, and-if-possible operators

CHAJDA, I. – HALAŠ, R. – MESIAR, R. On the decomposability of aggregation functions on direct products of posets. *Fuzzy Sets and Systems*, s. 25–35.

Kľúčové slová: direct product, aggregation function, decomposition

JENČA, G. Pseudo effect algebras are algebras over bounded posets. *Fuzzy Sets and Systems*, s. 179–185.

Kľúčové slová: pseudo effect algebra, pseudo d-poset

JIN, L. – MESIAR, R. – KALINA, M. – ŠPIRKOVÁ, J. – BORKOTOKEY, S. New transformations of aggregation functions based on monotone systems of functions. *International Journal of Approximate Reasoning*, s. 79–95.

Kľúčové slová: convex sum, aggregation function, copula

JIN, L. – MESIAR, R. – KALINA, M. – YAGER, R R. Canonical form of ordered weighted averaging operators. *Annals of Operations Research*, 295. s. 605–631.

Kľúčové slová: orness measure, aggregation functions, uncertainty information, canonical form of OWA operator, OWA operator

JIN, L. – MESIAR, R. – STUPŇANOVÁ, A. Sugeno integrals, H_α , and H_β indices: How to compare scientists from different academic areas. *IEEE Transactions on fuzzy systems*, 28. s. 795–800.

Kľúčové slová: Sugeno integral, h-index

JIN, L. – MESIAR, R. – YAGER, R R. Parameterized preference aggregation operators with improved adjustability. *International Journal of General Systems*, 49. s. 843–855.

Kľúčové slová: aggregation operators, decision making, extreme conformity

KALINA, M. Constructions for t-conorms and t-norms on interval-valued and interval-valued intuitionistic fuzzy sets by paving. *Notes on Intuitionistic Fuzzy Sets*, 26. s. 2020.

Články v časopisoch

Klíčové slová: t-conorm, paving, interval-valued fuzzy sets, interval-valued intuitionistic fuzzy sets, t-norm

KNOR, M. – IMRAN, M. – KAMRAN JAMIL, M. – ŠKREKOVSKI, R. Remarks on distance based topological indices for I-apex trees. *Symmetry*, 12. s. 2020.

Klíčové slová: Wiener index, distance, apex tree

KNOR, M. – KOMORNÍK, J. – ŠKREKOVSKI, R. – TEPEH, A. Some remarks on Balaban and sum-Balaban index. *The Art of Discrete and Applied Mathematics*, 3. s. 2020.

Klíčové slová: sum-Balaban index, Balaban index, topological index

KNOR, M. – ŠKREKOVSKI, R. – TEPEH, A. On the difference between Wiener index and Graovac-Pisanski index. *MATCH*, 83. s. 109–120.

Klíčové slová: connected graph, Wiener index, Graovac-Pisanski index

KOUCHAKINEJAD, F. – ŠIPOŠOVÁ, A. Super- and sub-additive transformations of aggregation functions from the point of view of approximation. *Iranian Journal of Fuzzy Systems*, 17. s. 43–49.

Klíčové slová: sub-additive transformations, super-additive transformations, aggregation function

MACÁK, M. – MINARECHOVÁ, Z. – ČUNDERLÍK, R. – MIKULA, K. The finite element method as a tool to solve the oblique derivative boundary value problem in geodesy. *Tatra Mountains Mathematical Publications*, s. 63–80.

Klíčové slová: finite element method (FEM), oblique derivative boundary condition

MEHRI-DEHNAVI, H. – AGAHI, H. – MESIAR, R. A new nonlinear Choquet-like integral with applications in normal distributions based on monotone measures. *IEEE Transactions on fuzzy systems*, 28. s. 288–293.

Klíčové slová: Choquet integral, fuzzy measure, normal distribution

MESIAR, R. – KOLESÁROVÁ, A. Copulas and fuzzy implications. *International Journal of Approximate Reasoning*, s. 52–59.

Klíčové slová: fuzzy implications, fuzzy theory, copulas

MESIAR, R. – KOLESÁROVÁ, A. Quasi-Copulas, Copulas and Fuzzy Implicators. *International Journal of Computational Intelligence Systems*, 13. s. 681–689.

MESIAR, R. – ŠELIGA, A. – ŠIPOŠOVÁ, A. – ŠIRÁŇ, J. Convolution of aggregation functions. *International Journal of General Systems*, 49. s. 747–759.

Klíčové slová: convolution, super-additive transformations, aggregation function

MIKULOVÁ, K. – JAROLÍMEK, I. – ŠIBÍK, J. – BACIGÁL, T. – ŠIBÍKOVÁ, M. Long-term changes of softwood floodplain forests—did the disappearance of wet vegetation accelerate the invasion process?. *Forests*, 11. s. 11.

Klíčové slová: Danube, alien species, biodiversity

NÁNÁSIOVÁ, O. – PYKACZ, J. – VALÁŠKOVÁ, L. – ČIPKOVÁ, K. On extension of joint distribution functions on quantum logics. *International Journal of Theoretical Physics*, 59. s. 274–291.

Kľúčové slová: quantum probability, joint distribution function, quantum logic

OKOCK, P O. – URBÁN, J. – MIKULA, K. Efficient 3D shape registration by using distance maps and stochastic gradient descent method. *Tatra Mountains Mathematical Publications*, s. 81–102.

Kľúčové slová: affine registration, distance map, stochastic gradient descent

OUYANG, Y. – LI, J. – MESIAR, R. Relationship between two types of superdecomposition integrals on finite spaces. *Fuzzy Sets and Systems*, s. 1–16.

Kľúčové slová: monotone measure, superdecomposition integral, convex integral

PARK, S A. – SIPKA, T. – KRIVÁ, Z. – AMBROZ, M. – KOLLÁR, M. – KÓSA, B. – NGUYEN-CHI, M. – LUTFALLA, G. – MIKULA, K. Macrophage image segmentation by thresholding and subjective surface method. *Tatra Mountains Mathematical Publications*, s. 103–120.

Kľúčové slová: thresholding, image segmentation, macrophage

PAŠTEKA, R. – ZAHOREC, P. – PAPČO, J. – ČUNDERLÍK, R. Gravitačné kopce. *Quark*, 26. s. 30–31.

Kľúčové slová: gravity, gravimetria

PU, X. – MESIAR, R. – YAGER, R R. – JIN, L. Interval Sugeno Integral With Preference. *IEEE Transactions on fuzzy systems*, 28. s. 597–601.

Kľúčové slová: fuzzy measure, aggregation function, Sugeno integral

PU, X. – WANG, Z. – MESIAR, R. – YAGER, R R. – QIN, J. – FENG, X. – JIN, L. Extended and infinite ordered weighted averaging and sum operators with numerical examples. *Iranian Journal of Fuzzy Systems*, 17. s. 33–41.

Kľúčové slová: information fusion, aggregation function, decision making

RENDEKOVÁ, A. – MIČIETA, K. – RANDÁKOVÁ, Z. – BALLOVÁ, D. – ELIAŠOVÁ, M. – MIŠKOVIC, J. Flora of the tram tracks of Bratislava. *Urban Ecosystems*, 23. s. 875–891.

Kľúčové slová: plant invasions, archaeophytes, alien species

RENDEKOVÁ, A. – MIŠKOVIC, J. – MIČIETA, K. – MICHALOVÁ, M. – ELIAŠOVÁ, M. – BALLOVÁ, D. Changes in the diversity of dry calcareous grasslands after abandonment of traditional management in Devínska Kobyla National Nature Reserve (Southwestern Slovakia, Central Europe). *Ekológia = Ecology*, 39. s. 101–115.

Kľúčové slová: vegetation succession, Devínska Kobyla, Festuco-Brometea

SAMINGER-PLATZ, S. – KOLESÁROVÁ, A. – MESIAR, R. – KLEMENT, E P. The key role of convexity in some copula constructions. *European Journal of Mathematics*, 6. s. 533–560.

Kľúčové slová: quasi-copula, ultramodular function, copula

Články v časopisoch

SESMA-SARA, M. – MESIAR, R. – BUSTINCE, H. Weak and directional monotonicity of functions on Riesz spaces to fuse uncertain data. *Fuzzy Sets and Systems*, s. 145–160.

Kľúčové slová: aggregation function, interval-valued function, directional monotonicity

SHEIKHI, A. – ARAD, F. – MESIAR, R. – VAVRÍKOVÁ, L. Random noise and perturbation of copula with a copula induced noise. *International Journal of General Systems*, 49. s. 856–871.

Kľúčové slová: perturbation of copula, noise, copula

SHEIKHI, A. – MESIAR, R. Copula-based measurement error models. *Iranian Journal of Fuzzy Systems*, 17. s. 29–38.

Kľúčové slová: perturbation of copula, noise, copula

SHVYDKA, S. – CADARSO-SUÁREZ, C. – BALLOVÁ, D. – SARABEEV, V. Patterns of monogenean abundance in native and invasive populations of *Planiliza haematocheila* (Teleostei: Mugilidae): interactions between climate and host defence mechanisms explain parasite release. *International Journal for Parasitology*, 50. s. 1023–1031.

Kľúčové slová: generalised additive models, *Ligophorus llewellyni*, Sea of Japan

SINGH, V. – YADAV, S P. – MESIAR, R. Information measures in Atanassov's intuitionistic fuzzy environment and their application in decision making. *IEEE Transactions on fuzzy systems*, 28. s. 2905–2917.

Kľúčové slová: fuzzy set, intuitionistic fuzzy set, inclusion measure, dissimilarity measure

ŠELIGA, A. Greedy decomposition integrals. *Iranian Journal of Fuzzy Systems*, 17. s. 23–28.

Kľúčové slová: Shilkret integral, decomposition integral, pan-integral

ŠELIGA, A. – ŠIRÁŇ, J. Continuity of super- and sub-additive transformations of continuous functions. *Iranian Journal of Fuzzy Systems*, 17. s. 165–168.

Kľúčové slová: continuity inheritance, sub-additive transformations, super-additive transformations, aggregation function

UBA, M O. – MIKULA, K. – KRIVÁ, Z. – NGUYEN, H. – SAVY, T. – KARDASH, E. – PEYRIÉRAS, N. 3D cell image segmentation by modified subjective surface method. *Tatra Mountains Mathematical Publications*, s. 147–162.

Kľúčové slová: 3D cell, image segmentation, subjective surface method

YANG, R. – JIN, L. – PATERNAIN, D. – YAGER, R R. – MESIAR, R. – BUSTINCE, H. Some preference involved aggregation models for basic uncertain information using uncertainty transformation. *Journal of Intelligent and Fuzzy Systems*, 39. s. 325–332.

Kľúčové slová: aggregation function, decision making, BUI aggregation

YANG, R. – PU, X. – MESIAR, R. – YAGER, R R. – JIN, L. Some realizations and instances of Yager prioritized preference frame with application in evaluation and decision making. *International Journal of Intelligent Systems*, 35. s. 557–568.

Kľúčové slová: induced OWA operator, decision making, aggregation operator

ZHU, C. – JIN, L. – MESIAR, R. – YAGER, R R. Using preference leveled evaluation functions to construct fuzzy measures in decision making and evaluation. *International Journal of General Systems*, 49. s. 161–173.

Klíčové slová: Choquet integral, decision making, aggregation operator

ŽDÍMALOVÁ, M. – BOHUMEL, T. – PLACHÁ-GREGOROVSKÁ, K. – WEISMANN, P. – EL FALOUGHY, H. Analysis of cell death by image processing. *Tatra Mountains Mathematical Publications*, s. 163–190.

Klíčové slová: graph cuts, segmentation, apoptosis

Monografie, učebnice, skriptá, príručky, normy, patenty, výskumné správy, iné neperiodické publikácie

KRIVÁ, Z. *Základy programovania v jazyku C*. Bratislava: Spektrum STU, 2020. 210 s. ISBN 978-80-227-4982-4.

Príspevky v zborníkoch, kapitoly v monografiách/učebniciach, abstrakty

ÁBRAHÁMOVÁ, A. Application of the finite element method in the mathematical cartography. In *Advances in Architectural, Civil and Environmental Engineering*. Bratislava: Spektrum STU, 2020, s. 14–21. ISBN 978-80-227-5052-3.

Kľúčové slová: finite element method (FEM), Lambert conformal conic projection, cartographic projection

ÁBRAHÁMOVÁ, A. Numerical methods in mathematical cartography. In PERFILIEVA, I. – KUPKA, J. *ISCAMI 2020*. Ostrava: University of Ostrava, 2020, s. 21–22. ISBN 978-80-7599-199-7.

Kľúčové slová: cartography, mathematical cartography, numerical methods

AMBROZ, M. – KOLLÁR, M. – MIKULA, K. Semi-implicit scheme for semi-automatic segmentation in NaturaSat software. In FROLKOVIČ, P. – MIKULA, K. – ŠEVČOVIČ, D. *ALGORITMY 2020*. Bratislava: Spektrum STU, 2020, s. 171–180. ISBN 978-80-227-5032-5.

Kľúčové slová: numerical method, curve evolution, image segmentation

ASICI, E. – MESIAR, R. Some construction methods for uninorms on bounded lattices. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 13. ISBN 978-80-8040-588-5.

Kľúčové slová: construction method, bounded lattice, uninorm

BACIGÁL, T. – KOMORNÍKOVÁ, M. – KOMORNÍK, J. Multidimensional copula models of dependencies between selected international financial market indexes. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L. T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, s. 347–360. ISBN 978-3-030-18057-7.

Kľúčové slová: tail dependence, vine copula, copula

BACIGÁL, T. Tools for application of 1-factor copula. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 14. ISBN 978-80-8040-588-5.

Kľúčové slová: factor copulas, applications, copula

BACHRATÝ, M. A census of skew morphisms for small cyclic groups. In *Advances in Architectural, Civil and Environmental Engineering*. Bratislava: Spektrum STU, 2020, s. 22–28. ISBN 978-80-227-5052-3.

Kľúčové slová: cyclic group, skew-morphism, skew product group

BALLOVÁ, D. – KALICKÁ, J. – ČERVEŇANSKÁ, M. Analysis of the development of the groundwater level regime. In *Book of abstracts of the 6th Stochastic Modeling Techniques and Data Analysis International Conference with Demographics Workshop – SMTDA 2020*. [s.l.]: ISAST, 2020.

Kľúčové slová: groundwater, hydrometeorology, trend

BALLOVÁ, D. – KALICKÁ, J. Data analysis and data visualisation of models' reliability for punching resistance assessment. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International*

Príspevky v zborníkoch, kapitoly v monografiách/učebniciach, abstrakty

Conference on Fuzzy Set Theory and Applications. FSTA 2020. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 16. ISBN 978-80-8040-588-5.

Kľúčové slová: punching resistance, visualisation, data analysis

BALLOVÁ, D. Odchýlky od homogenity časových radov hydrometeorologických procesov. In *Advances in Architectural, Civil and Environmental Engineering*. Bratislava: Spektrum STU, 2020, s. 29–34. ISBN 978-80-227-5052-3.

Kľúčové slová: heterogenita, homogenita, trend

BALLOVÁ, D. – RENDEKOVÁ, A. Statistical evaluation of botanical data. In PERFILIEVA, I. – KUPKA, J. *ISCAMI 2020*. Ostrava: University of Ostrava, 2020, s. 26–27. ISBN 978-80-7599-199-7.

Kľúčové slová: botanical data, statistics, software R

BALLOVÁ, D. Statistical analysis of migration in Slovakia. In *Book of abstracts of the 6th Stochastic Modeling Techniques and Data Analysis International Conference with Demographics Workshop – SMTDA 2020*. [s.l.]: ISAST, 2020.

Kľúčové slová: migration, change-point, trend

BALLOVÁ, D. Statistical detection of changes in Hydrometeorology. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 15. ISBN 978-80-8040-588-5.

Kľúčové slová: change, hydrometeorology, statistics

BALLOVÁ, D. The achievement of students in mathematics and the influence of mathematics on the study of civil engineering. In SZARKOVÁ, D. – RICHTÁRIKOVÁ, D. – PRÁŠILOVÁ, M. *Aplimat 2020*. Bratislava: Spektrum STU, 2020, s. 30–38. ISBN 978-80-227-4983-1.

Kľúčové slová: logistic regression, ANOVA, density

BALLOVÁ, D. Trend analysis and detection of change-points of selected financial and market indices. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L. T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, s. 372–381. ISBN 978-3-030-18057-7.

Kľúčové slová: change-point analysis, financial indicators, trend analysis

BANERJEE, D. – GUHA, D. – MESIAR, R. Multi-dimensional data aggregation utilizing extended partitioned Bonferroni mean Operator. In *Proceedings of the 2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*. Glasgow, UK: IEEE, 2020, ISBN 978-1-7281-6932-3.

Kľúčové slová: Bonferroni mean (BM), extended aggregation function, monotonicity

BANERJEE, D. – GUHA, D. – MESIAR, R. On the concept of extended partitioned Bonferroni mean operator. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 17. ISBN 978-80-8040-588-5.

Kľúčové slová: Bonferroni mean (BM), extended Bonferroni mean, mean

BUSTINCE, H. – CASTILLO, A. – RODRIGUES, I. – FUMANAL, J. – FERNANDEZ, J. – MINÁROVÁ, M. Effect of different distances in the gravitational clustering algorithm. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 26. ISBN 978-80-8040-588-5.

Kľúčové slová: algorithm, gravitational clustering, distance function

BUSTINCE, H. – MESIAR, R. – FERNANDEZ, J. – GALAR, M. – PATERNAIN, D. – ALTALHI, A H. – DIMURO, G P. – BEDREGAL, B. – TAKÁČ, Z. Dissimilarity based Choquet integrals. In LESOT, M. – VIEIRA, S. *Information Processing and Management of Uncertainty in Knowledge-Based Systems*. Cham: Springer Nature, 2020, s. 565–573. ISBN 978-3-030-50142-6.

Kľúčové slová: Choquet integral, pre-aggregation functions, dissimilarity

BUSTINCE, H. – MESIAR, R. – FERNANDEZ, J. – PATERNAIN, D. – TAKÁČ, Z. Dissimilarity based Choquet integrals. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 27–28. ISBN 978-80-8040-588-5.

Kľúčové slová: Choquet integral, dissimilarity, capacity

ČAHOJOVÁ, L. – JAROLÍMEK, I. – KOLLÁR, M. – MIKULA, K. – ŠIBÍK, J. – ŠIBÍKOVÁ, M. Identification and monitoring of forest habitats in a changing environment by satellite images. In VIGLAŠOVÁ, E. – KONDEKOVÁ, M. – SEBECHLEBSKÁ, T. – GAJANOVÁ, D. *Študentská vedecká konferencia PriF UK 2020*. Bratislava: Univerzita Komenského v Bratislave, 2020, s. 67–72. ISBN 978-80-223-5032-7.

Kľúčové slová: Natura 2000, remote sensing, Sentinel-2, forest type, ecosystem mapping

ČUNDERLÍK, R. – MACÁK, M. – KOLLÁR, M. – MIKULA, K. High-resolution numerical modelling of the altimetry-derived gravity disturbances and disturbing gradients. In *Geophysical Research Abstracts. Volume 22/2020*. Göttingen: Copernicus Publications, 2020.

Kľúčové slová: disturbing gradient, gravity disturbance, numerical modelling

ERSKINE, G. – HRIŇÁKOVÁ, K. – ŠIRÁŇ, J. Orientably-regular maps on twisted linear fractional groups. In JONES, G A. – PONOMARENKO, I. – ŠIRÁŇ, J. *Isomorphisms, Symmetry and Computations in Algebraic Graph Theory*. Cham: Springer Nature, 2020, s. 1–35. ISBN 978-3-030-32807-8.

Kľúčové slová: automorphism group, twisted linear fractional group, orientably-regular maps

FRANEK, M. – LENDELOVÁ, J. – MACÁK, M. – HUBOVÁ, O. External pressures distribution on tensioned membrane roofs. In HRAŠKA, J. – HANULIAK, P. – HARTMAN, P. *Proceedings of the enviBUILD 2019: Buildings and Environment. Bratislava, 7th November 2019*. 1. vyd. Warsaw : De Gruyter Poland, 2020, s. 69–74. ISBN 978-83-956696-9-9.

Kľúčové slová: external pressure coefficients, boundary layer wind tunnel, tensioned membrane roofs

FRANEK, M. – MACÁK, M. – HUBOVÁ, O. Distribution of the external pressure coefficients on the elliptic tower: experimental measurement compared with numerical modelling. In MELCER, J. – KOTRASOVÁ, K. – MAJOR, I. – BENIN, A V. *Dynamics of Civil Engineering and Transport Structures and Wind Engineering – DYN-WIND'2020*. Londýn: EDP Sciences, 2020.

Kľúčové slová: external pressure coefficients, BLWT wind tunnel, elliptic high – rise buildings

Príspevky v zborníkoch, kapitoly v monografiách/učebniciach, abstrakty

FROLKOVIČ, P. – GAJDOŠOVÁ, N. – GÄRTTNER, S. – RAY, N. Voronoi implicit interface method for geometry evolution of two minerals with applications in reactive porous media. In FROLKOVIČ, P. – MIKULA, K. – ŠEVČOVIČ, D. *ALGORITMY 2020*. Bratislava: Spektrum STU, 2020, s. 121–130. ISBN 978-80-227-5032-5.

Kľúčové slová: three phases, distance function, advection in normal direction

GYÜRKI, Š. A note on a problem of L. Martínez on almost-uniform partial sum families. In JONES, G A. – PONOMARENKO, I. – ŠIRÁŇ, J. *Isomorphisms, Symmetry and Computations in Algebraic Graph Theory*. Cham: Springer Nature, 2020, s. 67–71. ISBN 978-3-030-32807-8.

Kľúčové slová: directed graph, strongly regular graph, partial sum families

GYÜRKI, Š. – KLIN, M. – ZIV-AV, M. The Paulus-Rozenfeld-Thompson graph on 26 vertices revisited and related combinatorial structures. In JONES, G A. – PONOMARENKO, I. – ŠIRÁŇ, J. *Isomorphisms, Symmetry and Computations in Algebraic Graph Theory*. Cham: Springer Nature, 2020, s. 73–154. ISBN 978-3-030-32807-8.

Kľúčové slová: strongly regular graph, algebraic graph theory, distance regular graph

GYÜRKI, Š. Small directed strongly regular graphs. In *Algebra Colloquium Vol. 27, no. 1. Special Issue of G2R2 conference*. Singapore: World Scientific Publishing, 2020, s. 11–30.

Kľúčové slová: directed graph, strongly regular graph, Cayley graph

GYÜRKI, Š. Small directed strongly regular graphs. In *55th Czech-Slovak Conference on Graph Theory 2020*. Brno: Faculty of Informatics Masaryk University, 2020, s. 15.

Kľúčové slová: directed graph, strongly regular graph, regular graph

HAHN, J. – MIKULA, K. – FROLKOVIČ, P. – BALAŽOVJECH, M. – BASARA, B. Cell-centered finite volume method for regularized mean curvature flow on polyhedral meshes. In KLÖFKORN, R. – KEILEGAVLEN, E. *Finite Volumes for Complex Applications IX – Methods, Theoretical Aspects, Examples*. Cham: Springer, 2020, s. 755–763. ISBN 978-3-030-43650-6.

Kľúčové slová: nonlinear Crank-Nicolson method, polyhedral mesh, regularized mean curvature flow

HAIT, S R. – MESIAR, R. – GUHA, D. – CHAKRABORTY, D. A new family of Bonferroni mean-type pre-aggregation operators. In *Proceedings of the 2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*. Glasgow, UK: IEEE, 2020, ISBN 978-1-7281-6932-3.

Kľúčové slová: pre-aggregation functions, directional monotonicity, aggregation operator

HALAŠ, R. – MESIAR, R. – PÓCS, J. Representation of vee-preserving and wedge-preserving aggregation functions via binary relations. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 39. ISBN 978-80-8040-588-5.

Kľúčové slová: binary relations, aggregation functions, sup-preserving aggregation function

HLINĚNÁ, D. – KALINA, M. A note on an open problem of Alsina – Frank – Schweizer. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 41. ISBN 978-80-8040-588-5.

Kľúčové slová: associative functions, triangular norm, t-norm

HORANSKÁ, Ľ. – BUSTINCE, H. – FERNANDEZ, J. – MESIAR, R. On some generalizations of decomposition integrals. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 43–44. ISBN 978-80-8040-588-5.

Kľúčové slová: generalization, non-additive measures, decomposition integral

HUBOVÁ, O. – FRANEK, M. – MACÁK, M. Experimental determination of wind action on triangular solar panel assemblies. In MELCER, J. – KOTRASOVÁ, K. – MAJOR, I. – BENIN, A V. *Dynamics of Civil Engineering and Transport Structures and Wind Engineering – DYN-WIND'2020*. Londýn: EDP Sciences, 2020.

Kľúčové slová: solar panels, experiment, wind action

HUBOVÁ, O. – MACÁK, M. Numerical Investigation of an Atypical Building in Turbulent Wind Flow. In *5th World Multidisciplinary Civil Engineering-Architecture-Urban Planning Symposium – WMCAUS 2020*. Bristol: IOP Publishing, 2020.

Kľúčové slová: numerical investigation, turbulent wind flow

HUDEC, M. – MESIAR, R. The formalization of asymmetry in disjunctive evaluation. In LESOT, M. – VIEIRA, S. *Information Processing and Management of Uncertainty in Knowledge-Based Systems*. Cham: Springer Nature, 2020, s. 435–446. ISBN 978-3-030-50142-6.

Kľúčové slová: asymmetric disjunction, probabilistic sum, averaging functions

IBOLYA, G. – MIKULA, K. Numerical solution of the 1D viscous Burgers' and traffic flow equations by the inflow-implicit/outflow-explicit finite volume method. In FROLKOVIČ, P. – MIKULA, K. – ŠEVČOVIČ, D. *ALGORITMY 2020*. Bratislava: Spektrum STU, 2020, s. 191–200. ISBN 978-80-227-5032-5.

Kľúčové slová: traffic flow, finite volume method, viscous flow

JÁNOŠ, P. On lifting constructions of small regular graphs of a given degree and girth 6 and 8. In PERFILIEVA, I. – KUPKA, J. *ISCAMI 2020*. Ostrava: University of Ostrava, 2020, s. 40. ISBN 978-80-7599-199-7.

Kľúčové slová: graph construction, graph lifting, graph theory

JÁNOŠ, P. On lifting constructions of small regular graphs of girth six arising from a dipole. In *Advances in Architectural, Civil and Environmental Engineering*. Bratislava: Spektrum STU, 2020, s. 35–38. ISBN 978-80-227-5052-3.

Kľúčové slová: voltage assignment, lift, cage problem

JÁNOŠ, P. On small regular graphs of a given degree and girth 6 and 8 arising from lifts of dipoles. In *55th Czech-Slovak Conference on Graph Theory 2020*. Brno: Faculty of Informatics Masaryk University, 2020, s. 17.

Kľúčové slová: graph construction, regular graph, degree-girth problem

KALICKÁ, J. – MINÁROVÁ, M. – HALVONIK, J. – MAJTÁNOVÁ, L. Statistical analysis of models' reliability for punching resistance assessment. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, s. 331–338. ISBN 978-3-030-18057-7.

Príspevky v zborníkoch, kapitoly v monografiách/učebniciach, abstrakty

Kľúčové slová: parametric dimensionless statistical variable, statistical analysis of engineering data set

KALINA, M. Aggregation functions transformed by 0 – 1 valued monotone systems of functions. In LESOT, M. – VIEIRA, S. *Information Processing and Management of Uncertainty in Knowledge-Based Systems*. Cham: Springer Nature, 2020, s. 537–548. ISBN 978-3-030-50142-6.

Kľúčové slová: convex sum, aggregation function, copula

KALINA, M. Lattice-based sum of uninorms on bounded lattices. In *SISY 2020*. Piscataway (USA): IEEE, 2020, s. 15–20. ISBN 978-1-7281-7352-8.

Kľúčové slová: lattice-based sum of uninorms, n-uninorms, uninorm, lattice-based sum of lattices

KANIKOVÁ, K. – MACÁK, M. – BIELEK, B. Aerodynamic optimisation of a double skin transparent façade with narrow cavity by CFD methods. In ŠIKULA, O. – BARTÁK, M. *Simulace budov a techniky prostředí 2020*. Praha: IBPSA-CZ, 2020, s. 107–110. ISBN 978-80-907423-1-4.

Kľúčové slová: narrow cavity, pohyb prúdenia vzduchu, dvojité transparentná fasáda, úzky štrbinový medzipriestor, double skin transparent facade, CFD, air flow movement

KLEMENT, E P. – MESIAR, R. Intervals and more: aggregation functions for picture fuzzy sets. In KOSHELEVA, O. – SHARY, S P. – XIANG, G. – ZAPATRIN, R. *Beyond Traditional Probabilistic Data Processing Techniques: Interval, Fuzzy etc. Methods and Their Applications*. Cham: Springer Nature, 2020, s. 179–194. ISBN 978-3-030-31040-0.

Kľúčové slová: fuzzy set, aggregation function, interval

KOLESÁROVÁ, A. – MESIAR, R. A note on aggregation of intuitionistic values. In LESOT, M. – VIEIRA, S. *Information Processing and Management of Uncertainty in Knowledge-Based Systems*. Cham: Springer Nature, 2020, s. 411–418. ISBN 978-3-030-50142-6.

Kľúčové slová: aggregation function, intuitionistic values, representable aggregation function

KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L T. – MESIAR, R. – WISNIEWSKI, R. Preface. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, ISBN 978-3-030-18057-7.

Kľúčové slová: information technology

MACÁK, M. – MINARECHOVÁ, Z. – ČUNDERLÍK, R. – MIKULA, K. The finite element method for solving the oblique derivative boundary value problems in geodesy. In *Geophysical Research Abstracts. Volume 22/2020*. Göttingen: Copernicus Publications, 2020.

Kľúčové slová: oblique derivative boundary condition, geodesy, finite elements method

MESIAR, R. – KOLESÁROVÁ, A. Outliers-based aggregation. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 59–60. ISBN 978-80-8040-588-5.

Kľúčové slová: aggregation, outliers, aggregation functions

MINÁROVÁ, M. Isothermal viscoelasticity and energy. In KOTRASOVÁ, K. – KORMANÍKOVÁ, E. – KMEŤ,

S. *4th International Scientific Conference Structural and Physical Aspects of Construction Engineering (SPACE 2019)*. Londýn: EDP Sciences, 2020.

Kľúčové slová: energy, viscoelasticity, isotherm

NÁNÁSIOVÁ, O. – ČERŇANOVÁ, V. – VALÁŠKOVÁ, L. Probability measures and projections on quantum logics. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L. T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, s. 321–330. ISBN 978-3-030-18057-7.

Kľúčové slová: probability measure, orthomodular lattice, logical connectives, quantum logic, state

RÜCKSCHLOSSOVÁ, T. Specifics of teaching descriptive geometry for architects. In LÁVIČKA, M. – SURYNKOVÁ, P. – ŠÍR, Z. *Proceedings of the Czech-Slovak Conference on Geometry and Graphics 2020*. Plzeň: Vydavateľský servis :, 2020, s. 25–34. ISBN 978-80-86843-70-4.

Kľúčové slová: AutoCAD, study materials, descriptive geometry

SESMA-SARA, M. – MESIAR, R. – BUSTINCE, H. Relaxed forms of monotonicity in different fuzzy settings. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 80. ISBN 978-80-8040-588-5.

Kľúčové slová: weak monotonicity, fuzzy, monotonicity

SESMA-SARA, M. – MESIAR, R. – FERNANDEZ, J. – TAKÁČ, Z. – BUSTINCE, H. A proposal of the notions of ordered and strengthened ordered directional monotonicity for interval-valued functions based on admissible orders. In *Proceedings of the 2020 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE)*. Glasgow, UK: IEEE, 2020, ISBN 978-1-7281-6932-3.

Kľúčové slová: aggregation function, interval-valued function, directional monotonicity

STUPŇANOVÁ, A. – JIN, L. BIOWA Operators. In LESOT, M. – VIEIRA, S. *Information Processing and Management of Uncertainty in Knowledge-Based Systems*. Cham: Springer Nature, 2020, s. 419–425. ISBN 978-3-030-50142-6.

Kľúčové slová: Choquet integral, aggregation function, bi-capacity

STUPŇANOVÁ, A. Symmetric bi-capacities based Choquet integrals. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 85–86. ISBN 978-80-8040-588-5.

Kľúčové slová: Choquet integral, symmetric capacity, capacity

ŠELIGA, A. An overview of modifications of decomposition integrals. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 78. ISBN 978-80-8040-588-5.

Kľúčové slová: decomposition integral, modification, overview

ŠELIGA, A. – DORIA, S. Application of collection integrals: coherent lower and upper previsions. In PERFILEVA, I. – KUPKA, J. *ISCAMI 2020*. Ostrava: University of Ostrava, 2020, s. 59–60. ISBN 978-80-7599-199-7.

Príspevky v zborníkoch, kapitoly v monografiách/učebniciach, abstrakty

Kľúčové slová: collection integral, coherent lower prevision, super-additive integral

ŠELIGA, A. New Types of Decomposition Integrals and Computational Algorithms. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L. T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, s. 361–371. ISBN 978-3-030-18057-7.

Kľúčové slová: computational complexity, decomposition integral, non-linear integral

ŠELIGA, A. On computation of PAN and PC integrals in R. In *Advances in Architectural, Civil and Environmental Engineering*. Bratislava: Spektrum STU, 2020, s. 39–44. ISBN 978-80-227-5052-3.

Kľúčové slová: PAN-integral, PC integral, software R

ŠELIGA, A. – SMREK, P. Chebyshev and Jensen inequalities for collection integrals. In MESIAR, R. – NOVÁK, V. – SAMINGER-PLATZ, S. *Abstracts of the Fifteenth International Conference on Fuzzy Set Theory and Applications. FSTA 2020*. Liptovský Mikuláš: Armed Forces Academy of General M. R. Štefánik, 2020, s. 79. ISBN 978-80-8040-588-5.

Kľúčové slová: collection integral, Jensen's inequality, Chebyshev inequality

ŠIRÁŇ, J. Regular maps with no non-trivial exponents. In *55th Czech-Slovak Conference on Graph Theory 2020*. Brno: Faculty of Informatics Masaryk University, 2020, s. 25–26.

Kľúčové slová: regular map, rotational power, invariance

UBA, M. O. – MIKULA, K. – KRIVÁ, Z. – NGUYEN, H. – SAVY, T. – KARDASH, E. – PEYRIÉRAS, N. Application of modified subjective surface method to 3D cell membrane image segmentation. In FROLKOVIČ, P. – MIKULA, K. – ŠEVČOVIČ, D. *ALGORITMY 2020*. Bratislava: Spektrum STU, 2020, s. 51–60. ISBN 978-80-227-5032-5.

Kľúčové slová: subjective surface method, level set method, image segmentation

ŽDÍMALOVÁ, M. Aggregation, architecture, design, art. In SZARKOVÁ, D. – RICHTÁRIKOVÁ, D. – PRÁŠILOVÁ, M. *Aplimat 2020*. Bratislava: Spektrum STU, 2020, s. 1165–1172. ISBN 978-80-227-4983-1.

Kľúčové slová: architecture, design, aggregation

ŽDÍMALOVÁ, M. – BOHUMEL, T. – PLACHÁ-GREGOROVSKÁ, K. – WEISMANN, P. – EL FALOUGY, H. Graph cutting in image processing handling with biological data analysis. In KULCZYCKI, P. – KACPRZYK, J. – KÓCZY, L. T. – MESIAR, R. – WISNIEWSKI, R. *Information Technology, Systems Research, and Computational Physics*. Cham: Springer, 2020, s. 203–216. ISBN 978-3-030-18057-7.

Kľúčové slová: graph cuts, segmentation, apoptosis

ŽDÍMALOVÁ, M. Tessellation. In MAGNAGHI-DELFINO, P. – MELE, G. – NORANDO, T. *Faces of Geometry. From Agnesi to Mirzakhani: 13 May 2019, Milano, Italy*. 1. vyd. Cham : Springer Nature, 2020, s. 225–234. ISBN 978-3-030-29795-4.

Kľúčové slová: aggregation, art, tessellation

Závěrečná práce

BARÁNKOVÁ, L. – TOMEK, L. *Riešenie 2D hyperbolických rovníc pomocou MKP s aplikáciou na kmitanie membrán*. Diplomová práca. 2020.

Kľúčové slová: metóda konečných prvkov, Helmholtzova rovnica, finite element method, wave equation, Helmholtz equation, vlnová rovnica, membrane oscillations, kmitanie membrány

ČAVARGA, M. – MIKULA, K. *Tvorba optimálnych sietí pre 3D objekty pomocou evolúcie plôch*. Diplomová práca. 2020.

Kľúčové slová: tangential redistribution, remeshing, vnorenie, signed distance function, tangenciálna redistribúcia, immersion, Laplace-Beltrami operator, surface evolution, evolúcia plôch, Laplace-Beltramiho operátor, znamienková vzdialenosť funkcia

DIBALA, M. – MESIAR, R. *Kopuly, ako nástroj modelovania problémov finančnej matematiky*. Dizertačná práca. 2020.

Kľúčové slová: stochastic modeling, stochastická závislosť, kopuly, modelovanie neurčitosti, copula

GEDAJOVÁ, M. – FROLKOVIČ, P. *Numerické riešenie rovnice advekcie pomocou lokálne zjemnených sietí*. Diplomová práca. 2020.

Kľúčové slová: lokálne zjemnené siete, semi-implicit methods, semi-implicitné metódy, locally refined mesh, p4est, explicit methods, advection equation, rovnica advekcie, explicitné metódy

LINKEŠ, M. – MINARECHOVÁ, Z. *Porovnanie možností modelovania okrajových úloh vo voľne dostupných MKP softvéroch*. Bakalárska práca. 2020.

Kľúčové slová: Finite element method, Range Software, Agros2D, stacionárna rovnica vedenia tepla, steady-state heat equation, Z88Aurora, Metóda konečných prvkov

MALINARIČOVÁ, T. – AMBROZ, M. *Modelovanie a vizualizácia šírenia lesných požiarov*. Diplomová práca. 2020.

Kľúčové slová: vývoj krivky, forest fire spread simulator, užívateľské rozhranie, simulátor šírenia lesného požiaru, curve evolution, user interface

OŽVAT, A. A. – MIKULA, K. *Prirodzené siete hlbokého učenia na báze dopredno-spätnej nelineárnej difúzie pre klasifikáciu biotopov Natura 2000*. Diplomová práca. 2020.

Kľúčové slová: Hlboké strojové učenie, Clustering, Diffusion on graph, Klasterizácia, Difúzia na grafe, Analýza hlavných komponentov, Klasifikácia, Natura 2000, Deep-learning, Classification, Principal component analysis

SEKEREŠOVÁ, M. – HANDLOVIČOVÁ, A. *AMSS model a vlastnosti jeho numerickej schémy založenej na metóde konečných objemov*. Diplomová práca. 2020.

Kľúčové slová: explicit numerical scheme, AMSS model, semi-implicit numerical scheme, explicitná numerická schéma, iteračná plne implicitná numerická schéma, semi-implicitná numerická schéma, iterative fully implicit numerical scheme

SOMOROVSKÁ, M. – KRIVÁ, Z. *Automatické segmentačné metódy biologických dát*. Diplomová práca. 2020.

Závěrečná práce

Klíčové slová: spracovanie obrazov, thresholding methods, C++, image processing, segmentačné metódy, prahovacie metódy, segmentation methods

ZATKALÍK, D. – GULAN, M. *Efektívna implementácia nelineárneho prediktívneho riadenia pre systémy s rýchlou dynamikou*. Diplomová práca. 2020.

Klíčové slová: model predictive control, optimization, fast sampling, rýchle vzorkovanie, nonlinear programming, prediktívne riadenie, invertované kyvadlo, inverted pendulum, optimalizácia, nelineárne programovanie

ŽERAVÝ, M. – FROLKOVIČ, P. *Numerické modelovanie lavíny*. Diplomová práca. 2020.

Klíčové slová: ParaView, lavína, finite areas, avalanche, shallow water equations, rovnice plytkej vody, OpenFoam, konečné plochy

Autorský index

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