

References

- [1] Abelson, H., Sussman, G., Sussman, J.: Struktura i interpretacja programów komputerowych. WNT, Warszawa (2002)
- [2] Abramowitz, M., Stegun, I.A.: Handbook of Mathematical Functions with Formulas, Graphs, and Mathematical Tables. National Bureau of Standards Applied Mathematics Series (1972)
- [3] Abramowitz, M., Stegun, I.A.: Handbook of mathematical functions. Dover, New York (1972), http://www.iopb.res.in/~somen/abramowitz_and_stegun/
- [4] Achiezer, N.: Teoria aproksymacji. PWN, Warszawa (1957)
- [5] Aczel, A.: Complete Business Statistics. Irvin (1996)
- [6] Ahn, B.S.: Preference relation approach for obtaining OWA operators weights. International Journal of Approximate Reasoning 47(2), 166–178 (2008)
- [7] Ahn, B.S.: Parameterized OWA operator weights: An extreme point approach. International Journal of Approximate Reasoning 51(7), 820–831 (2010)
- [8] Aho, A., Garey, M., Ullman, J.: The transitive reduction of a directed graph. SIAM Journal on Computing 1(2), 131–137 (1972)
- [9] Aho, A., Sethi, R., Ullman, J.: Kompilatory. Reguły, metody i narzędzia. WNT, Warszawa (2002)
- [10] Alonso, S., Cabrerizo, F.J., Herrera-Viedma, E., Herrera, F.: *h*-index: A review focused on its variants, computation and standardization for different scientific fields. Journal of Informetrics 3, 273–289 (2009)
- [11] Alonso, S., Cabrerizo, F.J., Herrera-Viedma, E., Herrera, F.: *hg*-index: A new index to characterize the scientific output of researchers based on the *h*- and *g*-indices. Scientometrics 82(2), 391–400 (2010)
- [12] Altman, A.: The axiomatic approach to ranking systems. Ph.D. thesis, Israel Institute of Technology, Haifa, Izrael (2007)
- [13] Altman, A., Tennenholtz, M.: Ranking systems: The PageRank axioms. In: Proc. 6th ACM Conf. on Electronic Commerce (2005)
- [14] Anderson, T.R., Hankin, R.K.S., Killworth, P.D.: Beyond the Durfee square: Enhancing the *h*-index to score total publication output. Scientometrics 69(3), 577–588 (2008)
- [15] Angelov, P., Yager, R.: Density-based averaging – A new operator for data fusion. Information Sciences 222, 163–174 (2013)
- [16] Arnold, B.C.: Pareto and generalized pareto distributions. In: Economic Studies in Equality, Social Exclusion and Well-Being, pp. 119–145. Springer (2008)
- [17] Arrow, K.J.: A difficulty in the concept of social welfare. Journal of Political Economy 58(4), 328–346 (1950)
- [18] Arunachalam, S.: Citation analysis: Do we need a thoeory? Scientometrics 43(1), 141–142 (1998)
- [19] Atanassov, K.T.: Intuitionistic fuzzy sets. Fuzzy Sets and Systems 20, 87–96 (1986)
- [20] Bååth, R.: The state of naming conventions in R. The R Journal 4(2), 74–75 (2012)
- [21] Baczyński, M., Jayaram, B.: Fuzzy implications. Springer-Verlag, Berlin (2008)
- [22] Ball, P.: Index aims for fair ranking of scientists. Nature 436, 900 (2005)
- [23] Ban, A., Coroianu, L., Grzegorzewski, P.: Trapezoidal approximation and aggregation. Fuzzy Sets and Systems 177, 45–59 (2011)
- [24] Ban, A., Coroianu, L., Grzegorzewski, P.: A fixed-shape fuzzy median of a fuzzy sample. In: Proc. 8th conference of the European Society for Fuzzy Logic and Technology (EUSFLAT-13). pp. 215–222. Atlantis Press (2013)

- [25] Ban, A.: Approximation of fuzzy numbers by trapezoidal fuzzy numbers preserving the expected interval. *Fuzzy Sets and Systems* 159, 1327–1344 (2008)
- [26] Ban, A.: On the nearest parametric approximation of a fuzzy number – revisited. *Fuzzy Sets and Systems* 160, 3027–3047 (2009)
- [27] Baneyx, A.: *Publish or Perish* as citation metrics used to analyze scientific output in the humanities: International case studies in economics, geography, social sciences, philosophy, and history. *Archivum Immunologiae et Therapia Experimentalis* 56, 363–371 (2008)
- [28] Banks, M.G.: An extension of the Hirsch index: Indexing scientific topics and compounds. *Scientometrics* 69(1), 161–168 (2006)
- [29] Bar-Ilan, J.: H-index for price medalists revisited. *ISSI Newsletter* 2(1), 3–5 (2006)
- [30] Bar-Ilan, J.: Informetrics at the beginning of the 21st century — A review. *Journal of Informetrics* 2, 1–52 (2008)
- [31] Barabási, A., Newman, M., Watts, D.: *The Structure and Dynamics of Networks*. Princeton University Press (2006)
- [32] Barcza, K., Telcs, A.: Paretian publication patterns imply Paretian Hirsch index. *Scientometrics* 81(2), 513–519 (2009)
- [33] Barnett, G.A., Fink, E.L., Debus, M.B.: Mathematical model of academic citation age. *Communication research* 4(16), 510–531 (1989)
- [34] Barra, J.: *Matematyczne podstawy statystyki*. PWN, Warszawa (1982)
- [35] Bartłomiejczyk, L., Drewniak, J.: A characterization of sets and operations invariant under bijections. *Æquationes Mathematicæ* 68, 1–9 (2004)
- [36] Bartneck, C., Kokkelmans, S.: Detecting h-index manipulation through self-citation analysis. *Scientometrics* 87, 85–98 (2011)
- [37] Bartoszek, M., Gagolewski, M.: A fuzzy R code similarity detection algorithm. In: Laurent, A., et al. (eds.) *Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part III*. vol. 444, pp. 21–30. Springer (2014)
- [38] Bartoszek, M., Gagolewski, M.: Detecting similarity of R functions via a fusion of multiple heuristic methods (2015), submitted paper
- [39] Basu, A.: A note on the connection between the Hirsch index and the Random Hierarchical model. *ISSI Newsletter* 3(2), 24–27 (2007)
- [40] Batista, P.D., Campiteli, M.G., Kinouchi, O., Martinez, A.S.: Is it possible to compare researchers with different scientific interests? *Scientometrics* 68(1), 179–189 (2006)
- [41] Becker, R., Chambers, J., Wilks, A.: *The New S Language*. Chapman & Hall (1998), „*The Blue Book*”
- [42] Beirlant, J., Glänzel, W., Carbonez, A., Leemans, H.: Scoring research output using statistical quantile plotting. *Journal of Informetrics* 1, 185–192 (2007)
- [43] Beliakov, G.: Fast computation of trimmed means. *Journal of Statistical Software* 39, Code snippet 2 (2011)
- [44] Beliakov, G., Calvo, T., James, S.: On penalty-based aggregation functions and consensus. In: HErrera-Viedma, E., et al. (eds.) *Consensual Processes, STUDFUZZ* 267. pp. 23–40 (2011)
- [45] Beliakov, G., Calvo, T., Wilkin, T.: Three types of monotonicity of averaging functions. *Knowledge-Based Systems* 72, 114–122 (2014)
- [46] Beliakov, G., Calvo, T., Wilkin, T.: On the weak monotonicity of Gini means and other mixture functions. *Information Sciences* 300, 70–84 (2015)
- [47] Beliakov, G., James, S.: Citation-based journal ranks: The use of fuzzy measures. *Fuzzy Sets and Systems* 167, 101–119 (2011)

- [48] Beliakov, G., James, S.: Stability of weighted penalty-based aggregation functions. *Fuzzy Sets and Systems* 226(1), 1–18 (2013)
- [49] Beliakov, G., Pradera, A., Calvo, T.: *Aggregation functions: A guide for practitioners*. Springer-Verlag (2007)
- [50] Beliakov, G., Warren, J.: Appropriate choice of aggregation operators in fuzzy decision support systems. *IEEE Transactions on fuzzy systems* 9(6), 773–784 (2001)
- [51] Beliakov, G., Wilkin, T.: On some properties of weighted averaging with variable weights. *Information Sciences* 281, 1–7 (2014)
- [52] Bellosta, C.J.G.: **ADGofTest**: Anderson-Darling GoF test (2009), <http://CRAN.R-project.org/package=ADGofTest>, R package version 0.1
- [53] Benjamini, Y., Hochberg, Y.: Controlling False Discovery Rate: A practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society. Series B* 57(1), 289–300 (1995)
- [54] Bermudez, P.Z., Kotz, S.: Parameter estimation of the Generalized Pareto Distribution. Part II. *Journal of Statistical Planning and Inference* 140(6), 1374–1388 (2010)
- [55] Bernasconi, M., Choirat, C., Seri, R.: Empirical properties of group preference aggregation methods employed in AHP: Theory and evidence. *European Journal of Operational Research* 232, 584–592 (2014)
- [56] Bezdek, J.C., Spillman, B., Spillman, R.: Fuzzy relation spaces for group decision theory: An application. *Fuzzy Sets and Systems* 2, 5–14 (1979)
- [57] Bickel, P., Doksum, K.: *Mathematical Statistics: Basic Ideas and Selected Topics*. Holden-Day (1977)
- [58] Biecek, P.: *Przewodnik po pakiecie R. GiS*, Wrocław (2011)
- [59] Biecek, P.: *Analiza danych z programem R. Modele liniowe z efektami stałymi, losowymi i mieszanymi*. PWN, Warszawa (2012)
- [60] Billingsley, P.: *Prawdopodobieństwo i miara*. PWN, Warszawa (2009)
- [61] Blizard, W.D.: Multiset theory. *Notre Dame Journal of Formal Logic* 30(1), 36–66 (1989)
- [62] Blum, M., Floyd, R.W., Pratt, V., Rives, R.L., Tarjan, R.E.: Time bounds for selection. *Journal of Computer and System Sciences* 7(4), 448–460 (1973)
- [63] Bodenhofer, U., de Baets, B., Fodor, J.: A compendium of fuzzy weak orders: Representations and constructions. *Fuzzy Sets and Systems* 158, 811–829 (2007)
- [64] Bodenhofer, U.: A similarity-based generalization of fuzzy orderings. Ph.D. thesis, Johannes Kepler University, Linz, Austria (1999)
- [65] Bodjanova, S.: Median value and median interval of a fuzzy number. *Information Sciences* 172, 73–89 (2005)
- [66] Boell, S.K., Wilson, C.S.: Journal Impact Factors for evaluation scientific performance: Use of h -like indicators. *Scientometrics* 82, 613–626 (2010)
- [67] Bollen, J., Rodriguez, M.A., van de Sompel, H.: Journal status. *Scientometrics* 69(3), 669–687 (2006)
- [68] Bonitz, M.: Ten years of Matthew effect for countries. *Scientometrics* 64(3), 375–379 (2005)
- [69] Bonnett, X., Shine, R., Lourdais, O.: Taxonomic chauvinism. *TRENDS in Ecology and Evolution* 21(4), 1–3 (2002)
- [70] Bookstein, A.: Implications of ambiguity for scientometric measurement. *Journal of the American Society for Information Science and Technology* 52(1), 74–79 (2001)
- [71] Bornmann, L., Daniel, H.D.: Convergent validation of peer review decisions using the h index. Extent of and reasons for type I and type II errors. *Journal of Informetrics* 1, 204–213 (2007)
- [72] Bornmann, L., Daniel, H.D.: What do we know about the h index? *Journal of the American Society for Information Science and Technology* 58(9), 1381–1385 (2007)

- [73] Bornmann, L., Daniel, H.D.: What do citation counts measure? A review of studies on citing behavior. *Journal of Documentation* 64(1), 45–80 (2008)
- [74] Bornmann, L., Daniel, H.D.: The state of h index research. *EMBO Reports* 10(1), 2–5 (2009)
- [75] Bornmann, L., Mutz, R., Daniel, H.D.: The b index as a measure of scientific excellence. A promising supplement to the h index. *Cybermetrics* 11(1) (2007)
- [76] Bornmann, L., Mutz, R., Daniel, H.D.: Latent Markov modeling applied to grant peer review. *Journal of Informetrics* 2(3), 217–228 (2008)
- [77] Borovskikh, Y.V.: Nonuniform estimation of rate of convergence for L-statistics. *Ukrainian Mathematical Journal* 33(2), 127–132 (1981)
- [78] Borovskikh, Y.V., Weber, N.C.: Asymptotic distributions for a class of generalized L-statistics. *Bernoulli* 16(4), 1177–1190 (2010)
- [79] Bottema, O.: Het begrip “merkwaardig” met betrekking tot punten in de driehoeksmetkunde. *Nieuw Tijdschr. Wisk.* 69, 2–7 (1981)
- [80] Bouyssou, D., Marchant, T.: Consistent bibliometric rankings of authors and of journals. *Journal of Informetrics* 4, 365–378 (2010)
- [81] Bouyssou, D., Marchant, T.: Bibliometric rankings of journals based on Impact Factors: An axiomatic approach. *Journal of Informetrics* 5, 75–86 (2011)
- [82] Bouyssou, D., Marchant, T.: Ranking scientists and departments in a consistent manner. *Journal of the American Society for Information Science and Technology* 62(9), 1761–1769 (2011)
- [83] Boyack, K.W., Klavans, R., Börner, K.: Mapping the backbone of science. *Scientometrics* 64(3), 351–374 (2005)
- [84] Boytsov, L.: Indexing methods for approximate dictionary searching: comparative analyses. *ACM Journal of Experimental Algorithmics* 16, 1–86 (2011)
- [85] Bras-Amorós, M., Domingo-Ferrer, J., Torra, V.: A bibliometric index based on the collaboration distance between cited and citing authors. *Journal of Informetrics* 5(2), 248–264 (2011)
- [86] Braun, T., Glänzel, W., Schubert, A.: A Hirsch-type index for journals. *Scientometrics* 69(1), 169–173 (2006)
- [87] Bravington, M.: Debugging without (too many) tears. *R News* 3(3), 29–32 (2003)
- [88] Brent, R.: Algorithms for minimization without derivatives. Prentice-Hall (1973)
- [89] Brimberg, J.: The Fermat-Weber location problem revisited. *Mathematical Programming* 71, 71–76 (1995)
- [90] Broadus, R.N.: Early approaches to bibliometrics. *Journal of the American Society for Information Science* 38(2), 127–129 (1987)
- [91] Brönnimann, H., Melquiond, G., Pionc, S.: The design of the Boost interval arithmetic library. *Theoretical Computer Science* 351(1), 111–118 (2006)
- [92] Brumback, R.A.: Impact Factor Wars: Episode V — The Empire strikes back. *Journal of Child Neurology* 24(3), 260–262 (2009)
- [93] Brunelli, M., Mezei, J.: How different are ranking methods for fuzzy numbers? a numerical study. *International Journal of Approximate Reasoning* 54, 627–639 (2013)
- [94] Buchholz, K.: Criteria for the analysis of scientific quality. *Scientometrics* 32(2), 195–218 (1995)
- [95] Bullen, P.: Handbook of means and their inequalities. Springer Science+Business Media, Dordrecht (2003)
- [96] Burrell, Q.L.: A simple linear model for linked informetric processes. *Information Processing & Management* 28(5), 637–645 (1992)
- [97] Burrell, Q.L.: The Kolmogorov-Smirnov test and rank-frequency distributions. *Journal of the American Society for Information Science* 45(1), 59 (1994)
- [98] Burrell, Q.L.: Stochastic modelling of the first-citation distribution. *Scientometrics* 52(1), 3–12 (2001)

- [99] Burrell, Q.L.: Predicting future citation behavior. *Journal of the American Society for Information Science and Technology* 54(5), 372–378 (2003)
- [100] Burrell, Q.L.: Are “sleeping beauties” to be expected? *Scientometrics* 65(3), 381–389 (2005)
- [101] Burrell, Q.L.: The use of Lotka functions and systematic sampling. *Scientometrics* 67(2), 323–325 (2006)
- [102] Burrell, Q.L.: Hirsch index of Hirsch rate? Some thoughts arising from Liang’s data. *Scientometrics* 73(1), 19–28 (2007)
- [103] Burrell, Q.L.: Hirsch’s h -index: A stochastic model. *Journal of Informetrics* 1, 16–25 (2007)
- [104] Burrell, Q.L.: On the h -index, the size of the Hirsch core and Jin’s A -index. *Journal of Informetrics* 1, 170–177 (2007)
- [105] Burrell, Q.L.: Extending Lotkaian informetrics. *Information Processing & Management* 44, 1794–1807 (2008)
- [106] Burrell, Q.L.: The publication/citation process at the micro level: A case study. In: Kretschmer, H., Havemann, F. (eds.) *Proc. WIS 2008, 4th Intl. Conf. Webometrics, Informetrics and Scientometrics & 9th COLLNET Meeting*. Berlin (2008)
- [107] Burrell, Q.L.: Some comments on “The estimation of lost multi-copy documents: A new type of informetrics theory” by Egghe and Proot. *Journal of Informetrics* 2, 101–105 (2008)
- [108] Burrell, Q.L.: On Hirsch’s h , Egghe’s g and Kosmulski’s $h(2)$. *Scientometrics* 79(1), 323–325 (2009)
- [109] Bustince, H., Barrenechea, E., Pagola, M.: Relationship between restricted dissimilarity functions, restricted equivalence functions and normal e_N -functions: Image thresholding invariant. *Pattern Recognition Letters* 29(4), 525–536 (2008)
- [110] Bustince, H., Fernandez, J., Kolesárová, A., Mesiar, R.: Fusion functions and directional monotonicity. *Communications in Computer and Information Science* 444, 262–268 (2014)
- [111] Bustince, H., Fernandez, J., Mesiar, R., Pradera, A., Beliakov, G.: Restricted dissimilarity functions and penalty functions. In: Galichet, S., et al. (eds.) *Proc. Eusflat/LFA 2011*. pp. 79–85 (2011)
- [112] Byrd, R.H., Nocedal, J., Schnabel, R.B.: Representations of quasi-Newton matrices and their use in limited memory methods. *Mathematical Programming* 63(4), 129–156 (1994)
- [113] Byrd, R., Lu, P., Nocedal, J.: A limited memory algorithm for bound constrained optimization. *SIAM Journal on Scientific and Statistical Computing* 16, 1190–1208 (1995)
- [114] Calvo, T., Beliakov, G.: Aggregation functions based on penalties. *Fuzzy Sets and Systems* 161, 1420–1436 (2010)
- [115] Calvo, T., Kolesarova, A., Komornikova, M., Mesiar, R.: Aggregation operators: Properties, classes and construction methods. In: Calvo et al. [117], pp. 3–104
- [116] Calvo, T., Mayor, G.: Remarks on two types of extended aggregation functions. *Tatra Mountains Mathematical Publications* 16, 235–253 (1999)
- [117] Calvo, T., Mayor, G., Mesiar, R. (eds.): *Aggregation operators. New trends and applications*, *Studies in Fuzziness and Soft Computing*, vol. 97. Physica-Verlag, New York (2002)
- [118] Calvo, T., Mayor, G., Torrens, J., Suer, J., Mas, M., Carbonell, M.: Generation of weighting triangles associated with aggregation functions. *International Journal of Uncertainty, Fuzziness and Knowledge-based Systems* 8(4), 417–451 (2000)
- [119] Calvo, T., Mesiar, R., Yager, R.R.: Quantitative weights and aggregation. *IEEE Transactions on Fuzzy Systems* 12(1), 62–69 (2004)
- [120] Carbonell, M., Mas, M., Mayor, G.: On a class of monotonic extended owa operators. In: *Proc. 6th IEEE International Conference on Fuzzy Systems (FUZZ-IEEE’97)*. vol. 3, pp. 1695–1700 (1997)
- [121] Cena, A., Gagolewski, M.: OM3: Ordered maxitive, minitive, and modular aggregation operators – Part I: Axiomatic analysis under arity-dependence. In: Bustince, H., et al. (eds.) *Aggregation Functions in Theory and in Practice*, vol. 228, pp. 93–103. Springer (2013)

- [122] Cena, A., Gagolewski, M.: OM3: Ordered maxitive, minitive, and modular aggregation operators – Part II: A simulation study. In: Bustince, H., et al. (eds.) *Aggregation Functions in Theory and in Practice*, vol. 228, pp. 105–115. Springer (2013)
- [123] Cena, A., Gagolewski, M.: A K-means-like algorithm for informetric data clustering (2015), submitted paper
- [124] Cena, A., Gagolewski, M.: OM3: Ordered maxitive, minitive, and modular aggregation operators – Axiomatic and probabilistic properties in an arity-monotonic setting. *Fuzzy Sets and Systems* 264, 138–159 (2015)
- [125] Cena, A., Gagolewski, M., Mesiar, R.: Problems and challenges of information resources producers’ clustering (2015), submitted paper
- [126] Chambers, J.: *Programming with Data*. Springer-Verlag (1998), „*The Green Book*”
- [127] Chambers, J.: *Software for Data Analysis. Programming with R*. Springer-Verlag (2008)
- [128] Chambers, J., Hastie, T.: *Statistical Models in S*. Chapman & Hall (1992), „*The White Book*”
- [129] Chan, T.M.: Optimal output-sensitive convex hull algorithms in two and three dimensions. *Discrete and Computational Geometry* 16, 361–368 (1996)
- [130] Chan, T.M.: An optimal randomized algorithm for maximum Tukey depth. In: *Proc. 15th ACM-SIAM Symp. Discrete Algorithms (SODA)*. pp. 430–436 (2004)
- [131] Chanas, S.: On the interval approximation of a fuzzy number. *Fuzzy Sets and Systems* 122, 353–356 (2001)
- [132] Chazelle, B.: An optimal convex hull algorithm in any fixed dimension. *Discrete and Computational Geometry* 10(1), 377–409 (1993)
- [133] Chen, Y.S., Leimkuhler, F.F.: A relationship between Lotka’s law, Bradford’s law, and Zipf’s law. *Journal of the American Society for Information Science* 37(5), 307–314 (1986)
- [134] Chen, Y.L., Cheng, L.C.: Mining maximum consensus sequences from group ranking data. *European Journal of Operational Research* 198, 241–251 (2009)
- [135] Cheney, E.: *Introduction to Approximation Theory*. McGraw-Hill (1966)
- [136] Choquet, G.: Theory of capacities. *Annales de l’institut Fourier* 5, 131–295 (1954)
- [137] Choulakian, V., Stephens, M.A.: Goodness-of-fit tests for the Generalized Pareto Distribution. *Technometrics* 43(4), 478–484 (2001)
- [138] Chwałkowski, R.: *Typografia typowej książki*. Helion, Gliwice (2001)
- [139] Clopper, C., Pearson, E.: The use of confidence or fiducial limits illustrated in the case of the binomial. *Biometrika* 26, 404–413 (1934)
- [140] Conway, J.H., Sloane, N.J.A.: *Sphere Packings, Lattices and Groups*. Springer-Verlag, New York (1998)
- [141] Coroianu, L., Gagolewski, M., Grzegorzewski, P.: Nearest piecewise linear approximation of fuzzy numbers. *Fuzzy Sets and Systems* 233, 26–51 (2013)
- [142] Coroianu, L., Gagolewski, M., Grzegorzewski, P.: Piecewise linear approximation of fuzzy numbers – a discussion on algorithms, arithmetic operations and stability of fuzzy number characteristics (2014), submitted paper
- [143] Coroianu, L., Gagolewski, M., Grzegorzewski, P., Adabitarbar Firozja, M., Houlari, T.: Piecewise linear approximation of fuzzy numbers preserving the support and core. In: Laurent, A., et al. (eds.) *Information Processing and Management of Uncertainty in Knowledge-Based Systems, Part II*. vol. 443, pp. 244–254. Springer (2014)
- [144] Costas, R., Bordons, M.: The h -index: Advantages, limitations and its relation with other bibliometric indicators at the micro level. *Journal of Informetrics* 1, 193–203 (2007)
- [145] Costas, R., Bordons, M.: Is g -index better than h -index? An exploratory study at the individual level. *Scientometrics* 77(2), 267–288 (2008)

- [146] Craig, A.T., Hogg, R.V.: *Intorudtion to Mathematical Statistics*. Macmillan Publishing Co., Inc., New York (1978)
- [147] Cramér, H.: *Mathematical methods of statistics*. Princeton University Press, Princeton (1946)
- [148] Crawley, M.: *Statistics: An Introduction Using R*. John Wiley & Sons (2005)
- [149] Crawley, M.: *The R Book*. John Wiley & Sons (2007)
- [150] Cronin, B.: Metatheorizing citation. *Scientometrics* 43(1), 45–55 (1998)
- [151] Ćwik, J., Mielniczuk, J.: *Statystyczne systemy uczące się. Ćwiczenia w oparciu o pakiet R*. OW Politechniki Warszawskiej, Warszawa (2009)
- [152] Dalgaard, P.: *Introductory Statistics with R*. Springer-Verlag (2008)
- [153] Damerau, F.J.: A technique for computer detection and correction of spelling errors. *Communications of the ACM* 7(3), 171–176 (1964)
- [154] d’Angelo, C.A., Giuffrida, C., Abramo, G.: A heuristic approach to author name disambiguation in bibliometric databases for large-scale research assessments. *Journal of the American Society for Information Science and Technology* 62(2), 257–269 (2011)
- [155] Dantzig, G.: *Linear Programming and Extensions*. Princeton University Press, Princeton (1963)
- [156] DasGupta, A.: *Asymptotic theory of statistics and probability*. Springer-Verlag, New York (2008)
- [157] Dasgupta, M., Deb, R.: Transitivity and fuzzy preferences. *Social Choice and Welfare* 13, 305–318 (1996)
- [158] David, H.A., Nagaraja, H.N.: *Order statistics*. Wiley (2003)
- [159] Davis, P.M.: Reward or persuasion? The battle to define the meaning of a citation. *Learned Publishing* 21, 5–11 (2009)
- [160] de Finetti, B.: Sul significato soggettivo della probabilità. *Fundamenta Mathematicæ* 17, 298–329 (1931)
- [161] Deineko, V.G., Woeginger, G.J.: A new family of scientific impact measures: The generalized Kosmulski-indices. *Scientometrics* 80(3), 819–826 (2009)
- [162] del Castillo, J., Daoudi, J.: Estimation of the Generalized Pareto Distribution. *Statistics and Probability Letters* 79, 684–688 (2009)
- [163] Delgado, M., Vila, M., Voxman, W.: On a canonical representation of a fuzzy number. *Fuzzy Sets and Systems* 93, 125–135 (1998)
- [164] Demirci, M.: Aggregation operators on partially ordered sets and their categorical foundations. *Kybernetika* 42, 261–277 (2006)
- [165] Destercke, S., Dubois, D., Chojnacki, E.: Unifying practical uncertainty representations. I: Generalized p-boxes. *International Journal of Approximate Reasoning* 49(3), 649–664 (2008)
- [166] Destercke, S., Dubois, D., Chojnacki, E.: Unifying practical uncertainty representations. II: Clouds. *International Journal of Approximate Reasoning* 49(3), 664–677 (2008)
- [167] Desu, M.M., Rodine, R.H.: Estimation of the population median. *Skandinavisk Aktuarietidskrift* 28, 67–70 (1969)
- [168] R Development Core Team: *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria (2015), <http://www.R-project.org>
- [169] Diaconis, P., Shahshahani, M.: The subgroup algorithm for generating uniform random variables. *Probability In Engineering And Information Sciences* 1, 15–32 (1987)
- [170] Diamond, P., Kloeden, P.: *Metric spaces of fuzzy sets. Theory and applications*. World Scientific, Singapore (1994)
- [171] Donoho, D.L., Gasko, M.: Breakdown properties of location estimates based on halfspace depth and projected outlyingness. *The Annals of Statistics* 20(4), 1803–1827 (1992)
- [172] Dubois, D., Prade, H.: Operations on fuzzy numbers. *Int. J. Syst. Sci.* 9, 613–626 (1978)

- [173] Dubois, D., Prade, H.: Fuzzy numbers: An overview. In: In: Analysis of Fuzzy Information. Mathematical Logic, vol. I, pp. 3–39. CRC Press (1987)
- [174] Dubois, D., Prade, H.: The mean value of a fuzzy number. Fuzzy Sets and Systems 24, 279–300 (1987)
- [175] Dubois, D., Prade, H.: Semantics of quotient operators in fuzzy relational databases. Fuzzy Sets and Systems 78(1), 89–93 (1996)
- [176] Dubois, D., Prade, H.: Possibility theory, probability theory and multiple-valued logics: A clarification. Annals of Mathematics and Artificial Intelligence 32, 35–66 (2001)
- [177] Dubois, D., Prade, H.: Formal representations of uncertainty. In: Bouyssou, D., Dubois, D., Pirlot, M., Prade, H. (eds.) Decision-making process, chap. 3. ISTE, London, UK (2009)
- [178] Dubois, D., Prade, H., Smets, P.: A definition of subjective possibility. International Journal of Approximate Reasoning 48(2), 352–364 (2008)
- [179] Dubois, D., Prade, H., Testemale, C.: Weighted fuzzy pattern matching. Fuzzy Sets and Systems 28, 313–331 (1988)
- [180] Durante, F., Mesiar, R., Papini, P.L., Sempi, C.: 2-increasing binary aggregation operators. Information Sciences 177, 111–129 (2007)
- [181] Dyckerhoff, R., Koshevoy, G., Mosler, K.: Zonoid data depth: Theory and computation. In: Prat, A., et al. (eds.) Proc. COMPSTAT 1996. pp. 235–240. Physica-Verlag, Heidelberg (1996)
- [182] Eaton, M.L.: Multivariate Statistics. Wiley, New York (1983)
- [183] Eddelbuettel, D.: Seamless R and C++ Integration with Rcpp. Springer, New York (2013)
- [184] Eddelbuettel, D., François, R.: Rcpp: Seamless R and C++ integration. Journal of Statistical Software 40(8), 1–18 (2011)
- [185] Edelsbrunner, H.: Algorithms in Combinatorial Geometry. Springer-Verlag, Heidelberg (1987)
- [186] Egghe, L.: Pratt’s measure for some bibliometric distributions and its relation with the 80/20 rule. Journal of the American Society for Information Science 38(4), 288–297 (1987)
- [187] Egghe, L.: Mathematical theories of citation. Scientometrics 43(1), 57–62 (1998)
- [188] Egghe, L.: Relations between the continuous and the discrete Lotka power function. Journal of the American Society for Information Science and Technology 56(7), 664–668 (2005)
- [189] Egghe, L.: An improvement of the h -index: the g -index. ISSI Newsletter 2(1), 8–9 (2006)
- [190] Egghe, L.: Theory and practise of the g -index. Scientometrics 69(1), 131–152 (2006)
- [191] Egghe, L.: Item-time-dependent Lotkaian informetrics and applications to the calculation of the time-dependent h -index and g -index. Mathematical and Computer Modelling 45, 864–872 (2007)
- [192] Egghe, L.: Examples of simple transformations of the h -index: Qualitative and quantitative conclusions and consequences for other indices. Journal of Informetrics 2, 136–148 (2008)
- [193] Egghe, L.: The influence of merging on h -type indices. Journal of Informetrics 2(3), 252–262 (2008)
- [194] Egghe, L.: Modelling successive h -indices. Scientometrics 77(3), 377–387 (2008)
- [195] Egghe, L.: Mathematical study of h -index sequences. Information Processing and Management 45(2), 288–297 (2009)
- [196] Egghe, L.: Performance and its relation with productivity in Lotkaian systems. Scientometrics 81(2), 567–585 (2009)
- [197] Egghe, L.: Time-dependent Lotkaian informetrics incorporating growth of sources and items. Mathematical and Computer Modelling 49(1–2), 31–37 (2009)
- [198] Egghe, L.: The Hirsch index and related impact measures. Annual Review of Information Science and Technology 44, 65–114 (2010)

- [199] Egghe, L.: Influence of adding or deleting items and sources on the h -index. *Journal of the American Society for Information Science and Technology* 61(2), 370–373 (2010)
- [200] Egghe, L., Rousseau, R.: An informetric model for the Hirsch-index. *Scientometrics* 69(1), 121–129 (2006)
- [201] Eto, H.: Scientometric definition of science: In what respect is the humanities more scientific than mathematical and social sciences? *Scientometrics* 76(1), 23–42 (2008)
- [202] Everitt, B., Hothorn, T.: *A Handbook of Statistical Analyses Using R*. Chapman & Hall (2006)
- [203] Eysenck, H., Eysenck, M.: *Podpatrywanie umysłu*. GWP, Gdańsk (2003)
- [204] Fiala, D., Rousselot, F., Jezek, K.: PageRank for bibliographic networks. *Scientometrics* 76(1), 135–158 (2008)
- [205] Field, C., Ronchetti, E.: *Small sample asymptotics*. Institute of Mathematical Statistics, Hayward, CA (1990)
- [206] Fischer, K., Gärtner, B., Kutz, M.: Fast smallest-enclosing-ball computation in high dimensions. In: *Proc. 11th European Symposium on Algorithms (ESA)*. pp. 630–641 (2003)
- [207] Fisher, R.: On the mathematical foundations of theoretical statistics. *Philosophical Transactions of the Royal Society A* 222, 309–368 (1922)
- [208] Fisher, R.: The correlation between relatives on the supposition of Mendelian inheritance. *Philosophical Transactions of the Royal Society of Edinburgh* 52, 399–433 (1918)
- [209] Fisher, R.A., Yates, F.: *Statistical tables for biological, agricultural and medical research*. Oliver & Boyd, London (1938)
- [210] Fodor, J., de Baets, B.: Fuzzy preference modelling: Fundamentals and recent advances. In: Bustince, H., et al. (eds.) *Fuzzy Sets and Their Extensions: Representation, Aggregation and Models*. pp. 207–217. Springer-Verlag (2008)
- [211] Fodor, J., Roubens, M.: *Fuzzy Preference Modelling and Multicriteria Decision Support*. Springer (1994)
- [212] Fodor, J.C., Marichal, J.L.: On nonstrict means. *Æquationes Mathematicæ* 54(3), 308–327 (1997)
- [213] Foley, J., van Dam, A., Feiner, S., Hughes, J., Phillips, R.: *Wprowadzenie do grafiki komputerowej*. WNT, Warszawa (2001)
- [214] Franceschet, M.: A comparison of bibliometric indicators for computer science scholars and journals on *Web of Science* and *Google Scholar*. *Scientometrics* 83(1), 243–258 (2010)
- [215] Franceschini, F., Maisano, D.A.: The Hirsch index in manufacturing and quality engineering. *Quality and Reliability Engineering International* 25, 987–995 (2009)
- [216] Franceschini, F., Maisano, D.A.: Analysis of the Hirsch index’s operational properties. *European Journal of Operational Research* 203(2), 494–504 (2010)
- [217] Franceschini, F., Maisano, D.A.: Structured evaluation of the scientific output of academic research groups by recent h -based indicators. *Journal of Informetrics* 5, 64–74 (2011)
- [218] Frank, A., Asuncion, A.: *UCI machine learning repository* (2013), archive.ics.uci.edu/ml
- [219] Friedl, J.: *Wyrażenia regularne*. Helion, Gliwice (2001)
- [220] Gagolewski, M.: A remark on limit properties of generalized h - and g - indices. *Journal of Informetrics* 3(4), 367–368 (2009)
- [221] Gagolewski, M.: Aggregation operators and their application in a formal model for quality evaluation system of scientific research (Wybrane operatory agregacji i ich zastosowanie w modelu formalnym systemu jakości w nauce). Ph.D. thesis, Systems Research Institute, Polish Academy of Sciences (2011), (In Polish)
- [222] Gagolewski, M.: Bibliometric impact assessment with R and the CITAN package. *Journal of Informetrics* 5(4), 678–692 (2011)
- [223] Gagolewski, M.: On the relation between effort-dominating and symmetric minitive aggregation operators. In: Greco, S., et al. (eds.) *Advances in Computational Intelligence, Part III*, vol. 299, pp. 276–285. Springer (2012)

- [224] Gagolewski, M.: On the relationship between symmetric maxitive, minitive, and modular aggregation operators. *Information Sciences* 221, 170–180 (2013)
- [225] Gagolewski, M.: Scientific impact assessment cannot be fair. *Journal of Informetrics* 7(4), 792–802 (2013)
- [226] Gagolewski, M.: Statistical hypothesis test for the difference between Hirsch indices of two Pareto-distributed random samples. In: Kruse, R., et al. (eds.) *Synergies of Soft Computing and Statistics for Intelligent Data Analysis*, vol. 190, pp. 359–367. Springer (2013)
- [227] Gagolewski, M.: **CITAN**: CITation ANalysis toolpack (2014), <http://CRAN.R-project.org/package=CITAN>
- [228] Gagolewski, M.: *Programowanie w języku R. Analiza danych, obliczenia, symulacje*. Wydawnictwo Naukowe PWN, Warszawa (2014)
- [229] Gagolewski, M.: **FuzzyNumbers**: Tools to deal with fuzzy numbers in R (2014), <http://FuzzyNumbers.rexamine.com>
- [230] Gagolewski, M.: Normalized wdpwam and wdpowa spread measure (2015), submitted paper
- [231] Gagolewski, M.: Spread measures and their relation to aggregation functions. *European Journal of Operational Research* 241(2), 469–477 (2015)
- [232] Gagolewski, M.: Sugeno integral-based confidence intervals for the theoretical h-index. In: Grzegorzewski, P., et al. (eds.) *Strengthening Links Between Data Analysis and Soft Computing*, vol. 315, pp. 233–240. Springer (2015)
- [233] Gagolewski, M., Cena, A.: **agop**: Aggregation operators and preordered sets in R (2014), <http://agop.rexamine.com>
- [234] Gagolewski, M., Dębski, M., Nowakiewicz, M.: Efficient algorithm for computing certain graph-based monotone integrals: The l_p -indices. In: Mesiar, R., Bacigal, T. (eds.) *Proc. Uncertainty Modeling*. pp. 17–23 (2013)
- [235] Gagolewski, M., Grzegorzewski, P.: A geometric approach to the construction of scientific impact indices. *Scientometrics* 81(3), 617–634 (2009)
- [236] Gagolewski, M., Grzegorzewski, P.: Possible and necessary h -indices. In: Carvalho, J.P., et al. (eds.) *Proc. IFSA/Eusflat 2009*. pp. 1691–1695 (2009)
- [237] Gagolewski, M., Grzegorzewski, P.: Arity-monotonic extended aggregation operators. In: Hüllermeier, E., et al. (eds.) *Information Processing and Management of Uncertainty in Knowledge-Based Systems*, vol. 80, pp. 693–702. Springer (2010)
- [238] Gagolewski, M., Grzegorzewski, P.: Metody i problemy naukometrii. In: Rowiński, T., Tadeusiewicz, R. (eds.) *Psychologia i informatyka. Synergia i kontradycje*, pp. 103–125. Wyd. UKSW, Warszawa (2010)
- [239] Gagolewski, M., Grzegorzewski, P.: S-statistics and their basic properties. In: Borgelt, C., et al. (eds.) *Combining Soft Computing and Statistical Methods in Data Analysis*, pp. 281–288. Springer (2010)
- [240] Gagolewski, M., Grzegorzewski, P.: Axiomatic characterizations of (quasi-) L-statistics and S-statistics and the Producer Assessment Problem. In: Galichet, S., et al. (eds.) *Proc. Eusflat/LFA 2011*. pp. 53–58 (2011)
- [241] Gagolewski, M., Grzegorzewski, P.: Possibilistic analysis of arity-monotonic aggregation operators and its relation to bibliometric impact assessment of individuals. *International Journal of Approximate Reasoning* 52(9), 1312–1324 (2011)
- [242] Gagolewski, M., Lasek, J.: The use of fuzzy relations in the assessment of information resources producers' performance. In: *Proc. 7th IEEE International Conference Intelligent Systems IS'2014, Vol. 2: Tools, Architectures, Systems, Applications*. vol. 323, pp. 289–300. Springer (2015)
- [243] Gagolewski, M., Mesiar, R.: Aggregating different paper quality measures with a generalized h -index. *Journal of Informetrics* 6(4), 566–579 (2012)
- [244] Gagolewski, M., Mesiar, R.: Monotone measures and universal integrals in a uniform framework for the scientific impact assessment problem. *Information Sciences* 263, 166–174 (2014)

- [245] Gagolewski, M., Tartanus, B.: R package stringi: Character string processing facilities (2014), <http://stringi.rexamine.com/>, doi:10.5281/zenodo.12594
- [246] Garcia-Perez, M.: A multidimensional extension to Hirsch's h -index. *Scientometrics* 81(3), 779–785 (2009)
- [247] Garfield, E.: Citation indexes for science. *Science* 122(3159), 108–111 (1955)
- [248] Garfield, E.: Can citation indexing be automated? In: Stevens, M.E., Giuliano, V.E., Heilprin, L.B. (eds.) *Proc. Statistical Association Methods for Mechanized Documentation*. pp. 189–192. Washington (1964)
- [249] Garfield, E.: Random thoughts on citationology. Its theory and practice. *Scientometrics* 43(1), 69–76 (1998)
- [250] Garfield, E.: The history and meaning of the Journal Impact Factor. *Journal of American Medical Association* 295(1), 90–93 (2006)
- [251] Garfield, E., Pudovkin, A.I., Istomin, V.S.: Why do we need algorithmic historiography? *Journal of the American Society for Information Science and Technology* 54(5), 400–412 (2003)
- [252] Gärtner, B.: Fast and robust smallest enclosing balls. *Lecture Notes in Computer Science* 1643, 325–338 (1999)
- [253] Gärtner, B., Schönherr, S.: An efficient, exact, and generic quadratic programming solver for geometric optimization. In: *Proc. 16th ACM Symposium on Computational Geometry*. pp. 110–118 (2000)
- [254] Gentle, J.: *Random Number Generation and Monte Carlo Methods*. Springer-Verlag (2003)
- [255] Gentle, J.: *Matrix Algebra*. Springer-Verlag (2007)
- [256] Gentle, J.: *Computational Statistics*. Springer-Verlag (2009)
- [257] Gentleman, R.C., Carey, V.J., Bates, D.M., et al.: Bioconductor: Open software development for computational biology and bioinformatics. *Genome Biology* 5, R80 (2004)
- [258] Ghiselli Ricci, R.: Finitely and absolutely non idempotent aggregation operators. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems* 12(2), 201–217 (2004)
- [259] Ghiselli Ricci, R.: Asymptotically idempotent aggregation operators. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems* 17(5), 611–631 (2009)
- [260] Ghiselli Ricci, R., Mesiar, R.: Multi-attribute aggregation operators. *Fuzzy Sets and Systems* 181(1), 1–13 (2011)
- [261] Glänzel, W.: On the h -index — A mathematical approach to a new measure of publication activity and citation impact. *Scientometrics* 67(2), 315–321 (2006)
- [262] Glänzel, W.: On the opportunities and limitations of the H-index. *Science Focus* 1(1), 10–11 (2006)
- [263] Glänzel, W.: Some new applications of the h -index. *ISSI Newsletter* 3(2), 28–31 (2007)
- [264] Glänzel, W.: H-index concatenation. *Scientometrics* 77(2), 369–372 (2008)
- [265] Glänzel, W.: On some new bibliometric applications of statistics related to the h -index. *Scientometrics* 77(1), 187–196 (2008)
- [266] Glänzel, W.: Seven myths in bibliometrics. About facts and fiction in quantitative science studies. *COLLNET Journal of Scientometrics and Information Management* 2(1), 9–17 (2008)
- [267] Glänzel, W., Persson, O.: H-index for price medalists. *ISSI Newsletter* 1(4), 15–18 (2005)
- [268] Goldberg, D.: What every computer scientist should know about floating-point arithmetic. *ACM Computing Surveys* 21(1), 5–48 (1991)
- [269] Goldfarb, D., Idnani, A.: A numerically stable dual method for solving strictly convex quadratic programs. *Mathematical Programming* 27, 1–33 (1983)
- [270] Gonzalez-Pereira, B., Guerrero-Bote, V.P., de Moya-Anegón, F.: A new approach to the metric of journals' scientific prestige: The SJR indicator. *Journal of Informetrics* 4(3), 379–391 (2010)

- [271] Grabisch, M.: k -order additive discrete fuzzy measures and their representation. *Fuzzy Sets and Systems* 92(167–189) (1997)
- [272] Grabisch, M.: A graphical interpretation of the Choquet integral. *IEEE Transactions on Fuzzy Systems* 8(5), 627–631 (2000)
- [273] Grabisch, M.: How to score alternatives when criteria are scored on an ordinal scale. *Journal of Multi-Criteria Decision Analysis* 15, 31–44 (2008)
- [274] Grabisch, M., Marichal, J.L., Mesiar, R., Pap, E.: *Aggregation functions*. Cambridge University Press (2009)
- [275] Grabisch, M., Marichal, J.L., Mesiar, R., Pap, E.: Aggregation functions: Construction methods, conjunctive, disjunctive and mixed classes. *Information Sciences* 181, 23–43 (2011)
- [276] Grabisch, M., Marichal, J.L., Mesiar, R., Pap, E.: Aggregation functions: Means. *Information Sciences* 181, 1–22 (2011)
- [277] Graham, R.L.: An efficient algorithm for determining the convex hull of a finite planar set. *Information Processing Letters* 1, 132–133 (1972)
- [278] Greco, S., Mesiar, R., Rindone, F.: Two new characterizations of universal integrals on the scale $[0, 1]$. *Information Sciences* (2014), doi:10.1016/j.ins.2013.12.056
- [279] Groes, E., Jacobsen, H.J., Sloth, B., Tranæs, T.: Axiomatic characterizations of the Choquet integral. *Economic Theory* 12, 441–448 (1998)
- [280] Gross, P.L.K., Gross, E.M.: College libraries and chemical education. *Science* 66(1713), 385–389 (1927)
- [281] Grübel, R.: Orthogonalization of multivariate location estimators: The orthomedian. *The Annals of Statistics* 24(4), 1457–1473 (1996)
- [282] Grzegorzewski, P.: Metrics and orders in space of fuzzy numbers. *Fuzzy Sets and Systems* 97, 83–94 (1998)
- [283] Grzegorzewski, P.: Algorithms for trapezoidal approximations of fuzzy numbers preserving the expected interval. In: et al, B.M.B. (ed.) *Foundations of Reasoning Under Uncertainty*. pp. 85–98. Springer (2010)
- [284] Grzegorzewski, P., Pasternak-Winiarska, K.: Trapezoidal approximations of fuzzy numbers with restrictions on the support and core. In: *Proc. EUSFLAT/LFA 2011*. pp. 749–756. Atlantic Press (2011)
- [285] Grzegorzewski, P.: *Wspomaganie decyzji w warunkach niepewności. Metody statystyczne dla nieprecyzyjnych danych*. Exit, Warszawa (2006)
- [286] Grzegorzewski, P., Gagolewski, M., Bobecka-Wesołowska, K.: *Wnioskowanie statystyczne z wykorzystaniem środowiska R. Biuro ds. Projektu „Program Rozwojowy Politechniki Warszawskiej”*, Warszawa (2014)
- [287] Grzegorzewski, P., Gagolewski, M., Hryniewicz, O., Gil, M.A.: *Strengthening Links Between Data Analysis and Soft Computing*, vol. 315. Springer (2015)
- [288] Grzegorzewski, P., Mrówka, E.: Some notes on (Atanassov’s) intuitionistic fuzzy sets. *Fuzzy Sets and Systems* 156, 492–495 (2005)
- [289] Guan, J.C., Gao, X.: Exploring the h -index at patent level. *Journal of the American Society for Information Science and Technology* 60(1), 35–40 (2009)
- [290] Güngör, Z., Ünler, A.: K -harmonic means data clustering with simulated annealing heuristic. *Applied Mathematics and Computation* 184, 199–209 (2007)
- [291] Guns, R., Rousseau, R.: Real and rational variants of the h -index and the g -index. *Journal of Informetrics* 3(1), 64–71 (2009)
- [292] Guns, R., Rousseau, R.: Simulating growth of the h -index. *Journal of the American Society for Information Science and Technology* 60(2), 410–417 (2009)
- [293] Gupta, B.M., Sharma, L., Karisiddappa, C.R.: Modelling the growth of papers in a scientific speciality. *Scientometrics* 33(2), 187–201 (1995)
- [294] Halmos, P.: *Measure Theory*. Van Nostrand, New York (1950)

- [295] Hamming, R.W.: Error detecting and error correcting codes. *Bell System Technical Journal* 29(2), 147–160 (1950)
- [296] Harel, D.: *Rzecz o istocie informatyki*. WNT, Warszawa (2001)
- [297] Harzing, A.W.K., van der Wal, R.: Google *Scholar* as a new source for citation analysis? *Ethics in Science and Environmental Politics* 8(1), 62–71 (2008)
- [298] Harzing, A.W., von der Wall, R.: A Google Scholar *h*-index for journals: An alternative metric to measure journal impact in economics and business. *Journal of the American Society for Information Science and Technology* 60(1), 41–46 (2009)
- [299] Hastie, T., Tibshirani, R., Friedman, J.: *The Elements of Statistical Learning: Data Mining, Inference, and Prediction*. Springer-Verlag (2009)
- [300] Hastie, T., Tibshirani, R., Friedman, J.: *The Elements of Statistical Learning*. Springer (2013)
- [301] Heller, M.: *Jak być uczonym*. Znak, Kraków (2009)
- [302] Helmers, R., Ruymgaart, F.H.: Asymptotic normality of generalized L-statistics with unbounded scores. *Journal of Statistical Planning and Inference* 19, 43–53 (1988)
- [303] Higham, N.: *Accuracy and Stability of Numerical Algorithms*. SIAM, Philadelphia (2002)
- [304] Hirota, K.: Concepts of probabilistic sets. *Fuzzy Sets and Systems* 5, 31–46 (1981)
- [305] Hirsch, J.E.: An index to quantify individual’s scientific research output. *Proceedings of the National Academy of Sciences* 102(46), 16569–16572 (2005)
- [306] Hirsch, J.E.: Does the *h*-index have predictive power? *Proceedings of the National Academy of Sciences* 104(49), 19193–19198 (2007)
- [307] Hoeffding, W.: Probability inequalities for sums of bounded random variables. *Journal of the American Statistical Association* 58(301), 13–30 (1963)
- [308] Hopcroft, J., Ullman, J.: *Wprowadzenie do teorii automatów, języków i obliczeń*. PWN, Warszawa (2003)
- [309] Hornik, K., Murdoch, D.: Watch your spelling! *The R Journal* 3(2), 22–28 (2011)
- [310] Hornowska, E.: *Testy psychologiczne. Teoria i praktyka*. Scholar, Warszawa (2007)
- [311] Hou, H., Kretschmer, H., Liu, Z.: The structure of scientific collaboration networks in *Scientometrics*. *Scientometrics* 75(2), 189–202 (2008)
- [312] Hovden, R.: Bibliometrics for internet media: Applying the *h*-index to YouTube. *Journal of the American Society for Information Science and Technology* 64(11), 2326–2331 (2013)
- [313] Huang, Y.S., Chang, W.C., Lin, Z.L.: Aggregation of utility-based individual preferences for group decision-making. *European Journal of Operational Research* 229, 462–469 (2013)
- [314] Huang, Y.S., Liao, J.T., Lin, Z.L.: A study on aggregation of group decisions. *Systems Research and Behavioral Science* 26(4), 445–454 (2009)
- [315] Huber, J.C.: A new method for analyzing scientific productivity. *Journal of the American Society for Information Science and Technology* 52(13), 1089–1099 (2001)
- [316] Huber, J.C.: A new model that generates Lotka’s law. *Journal of the American Society for Information Science and Technology* 53(3), 209–219 (2002)
- [317] Hwang, Y.A.: An axiomatization of the Hirsch-index without adopting monotonicity. *Applied Mathematics and Information Sciences* 7(4), 1317–1322 (2013)
- [318] Hyndman, R.J., Fan, Y.: Sample quantiles in statistical packages. *The American Statistician* 50(4), 361–365 (1996)
- [319] Ivancheva, L.: Scientometrics today: A methodological overview. In: Kretschmer, H., Havemann, F. (eds.) *Proc. WIS 2008, 4th Intl. Conf. Webometrics, Informetrics and Scientometrics & 9th COLLNET Meeting*. Berlin (2008)

- [320] Jacso, P.: The plausability of computing the h -index of scholarly productivity and impact using reference-enhanced databases. *Online Information Review* 32(2), 266–283 (2008)
- [321] Jakubowski, J., Sztencel, R.: *Wstęp do teorii prawdopodobieństwa*. Script, Warszawa (2010)
- [322] James, D.A.: *RSQLite: SQLite interface for R* (2010), <http://CRAN.R-project.org/package=RSQLite>, R package version 0.9-4
- [323] Jaworski, P., Durante, F., Härdle, W., Rychlik, T.: *Copula Theory and Its Applications*. Springer-Verlag (2010)
- [324] Jensen, P., Rouquier, J.B., Croissant, Y.: Testing bibliometric indicators by their prediction of scientific promotions. *Scientometrics* 78(3), 467–479 (2009)
- [325] Jiang, H., Yi, S., Li, J., Yang, F., Hu, X.: Ant clustering algorithm with K-harmonic means clustering. *Expert Systems with Applications* 37, 8679–8684 (2010)
- [326] Jin, B., Liang, L., Rousseau, R., Egghe, L.: The R- and AR-indices: Complementing the h -index. *Chinese Science Bulletin* 52(6), 855–863 (2007)
- [327] Johnson, R.: *Modern Geometry: An Elementary Treatise on the Geometry of the Triangle and the Circle*. Houghton Mifflin, Boston, MA (1929)
- [328] Jones, O., Maillardet, R., Robinson, A.: *Introduction to Scientific Programming and Simulation Using R*. Chapman & Hall/CRC (2009)
- [329] Kate, S., Bhapkar, H.: *Basic of Mathematics*. Technical Publication Pune (2010)
- [330] Katsaros, D., Akritidis, L., Bozanis, P.: Spam: it’s not just for inboxes and search engines! Making Hirsch h -index robust to scientospam. *arXiv:0801.0386v1 [cs.DL]* (2008)
- [331] Kelly, C.D., Jennions, M.D.: The h index and career assessment by numbers. *TRENDS in Ecology and Evolution* 21(4), 167–170 (2006)
- [332] Kerns, G.: *Introduction to Probability and Statistics Using R* (2011), www.ipsur.org
- [333] Kierzek, R.: Polska nauka w indeksie Hirscha. *Biuletyn MNiSW* 137(6–7), 29–35 (2008)
- [334] Kierzek, R.: Jak porównać „apples and oranges”, czyli o różnych metodach analizy publikowalności i dorobku naukowego. *Biuletyn MNiSW* 143(2), 33–41 (2009)
- [335] Kimberling, C.: Central points and central lines in the plane of a triangle. *Mathematics Magazine* 67(3), 163–187 (1994)
- [336] Kimberling, C.: Triangle centers and central triangles. *Congr. Numer.e* 129, 1–295 (1998)
- [337] Klement, E., Manzi, M., Mesiar, R.: Ultramodular aggregation functions. *Information Sciences* 181, 4101–4111 (2011)
- [338] Klement, E., Mesiar, R., Pap, E.: A universal integral as common frame for Choquet and Sugeno integral. *IEEE Transactions on Fuzzy Systems* 18, 178–187 (2010)
- [339] Klement, E.P., Mesiar, R., Pap, E.: *Triangular norms*. Kluwer Academic Publishers (2000)
- [340] Klir, G.J., Yuan, B.: *Fuzzy sets and fuzzy logic. Theory and applications*. Prentice Hall PTR, New Jersey (1995)
- [341] Knuth, D.: *Literate Programming*. CSLI (1992)
- [342] Knuth, D.: *Sztuka programowania. Tom I. Algorytmy podstawowe*. WNT, Warszawa (2002)
- [343] Knuth, D.: *Sztuka programowania. Tom II. Algorytmy seminumeryczne*. WNT, Warszawa (2002)
- [344] Knuth, D.: *Sztuka programowania. Tom III. Sortowanie i wyszukiwanie*. WNT, Warszawa (2002)
- [345] Knuth, D.: *TeX. Podręcznik użytkownika*. WNT, Warszawa (2005)
- [346] Knuth, D.E.: *The Art of Computer Programming. Volume 2. Seminumerical Algorithms*. Addison Wesley, Reading, MA (1998)

- [347] Kononen, T.: Median strings. *Pattern Recognition Letters* 3, 309–313 (1985)
- [348] Koppel, M., Schler, J., Argamon, S.: Computational methods in authorship attribution. *Journal of the American Society for Information Science and Technology* 60(1), 9–26 (2009)
- [349] Koronacki, J., Ćwik, J.: *Statystyczne systemy uczące się*. WNT, Warszawa (2005)
- [350] Koronacki, J., Mielniczuk, J.: *Statystyka*. WNT, Warszawa (2001)
- [351] Koshevoy, G., Mosler, K.: Zonoid trimming for multivariate distributions. *The Annals of Statistics* 25(5) (1997)
- [352] Kosmulski, M.: A new Hirsch-type index saves time and works equally well as the original h -index. *ISSI Newsletter* 2(3), 4–6 (2006)
- [353] Kosmulski, M.: MAXPROD — A new index for assessment of the scientific output of an individual, and a comparison with the h -index. *Cybermetrics* 11(1), (2007)
- [354] Kostal, L., Lansky, P., Pokora, O.: Measures of statistical dispersion based on Shannon and Fisher information concepts. *Information Sciences* 235, 214–223 (2013)
- [355] Kostoff, R.N.: The use and misuse of citation analysis in research evaluation. *Scientometrics* 43(1), 27–43 (1998)
- [356] Krarup, J., Vajda, S.: On Torricelli’s geometrical solution to a problem of Fermat. *IMA Journal of Management Mathematics* 8, 215–223 (1997)
- [357] Krause, A., Olson, M.: *The Basics of S-PLUS*. Springer-Verlag (2005)
- [358] Kuhn, T.S.: *Struktura rewolucji naukowych*. Aletheia, Warszawa (2001)
- [359] Kuhn, T.S.: *Przewrót kopernikański*. *Astronomia planetarna w dziejach myśli Zachodu*. Prószyński i s-ka, Warszawa (2006)
- [360] Kuś, M., Mankiewicz, L., Życzkowski, K.: Porównywanie indeksów Hirscha uczonych i instytucji naukowych. *Biuletyn MNiSW* 144(3), 30–33 (2009)
- [361] Lang, R.: A note on the measurability of convex sets. *Arch. Math* 47, 90–92 (1986)
- [362] Lange, K.: *Numerical Analysis for Statisticians*. Springer-Verlag (2010)
- [363] Lasek, J., Szlavik, Z., Gagolewski, M., Bhulai, S.: How to improve a team’s position in the FIFA ranking – A simulation study (2015), submitted paper
- [364] Lavine, M.: *Introduction to Statistical Thought* (2010), www.math.umass.edu/~lavine/Book/book.html
- [365] Lawrence, M., Temple Lang, D.: RGtk2: A graphical user interface toolkit for R. *Journal of Statistical Software* 37(8), 1–52 (2010)
- [366] Lehmann, S., Jackson, A.D., Lautrup, B.E.: Measures for measures. *Nature* 444, 1003–1004 (2006)
- [367] Lehmann, S., Jackson, A.D., Lautrup, B.E.: A quantitative analysis of indicators of scientific performance. *Scientometrics* 76(2), 369–390 (2008)
- [368] Levenshtein, V.I.: Binary codes capable of correcting deletions, insertions, or reversals. *Soviet Physics Doklady* 10(8), 707–710 (1966)
- [369] Leydesdorff, L.: Various methods for the mapping of science. *Scientometrics* 11(5–6), 295–324 (1987)
- [370] Leydesdorff, L.: Theories of citation? *Scientometrics* 43(1), 5–25 (1998)
- [371] Leydesdorff, L.: The non-linear dynamics of meaning-processing in social systems. *Social Science Information* 48(1), 5–33 (2009)
- [372] Leydesdorff, L., Opthof, T.: Scopus’ source normalized impact per paper (snip) versus the journal impact factor based on fractional counting of citations. *Journal of the American Society for Information Science and Technology* 61(11), 2365–2396 (2010)
- [373] Li, W.: Random texts exhibit Zipf’s-law-like word frequency distribution. *IEEE Transactions on Information Theory* 38(6), 1842–1845 (1992)

- [374] Lisee, C., Lariviere, V., Archambault, E.: Conference proceedings as a source of scientific information: A bibliometric analysis. *Journal of the American Society for Information Science and Technology* 59(11), 1776–1784 (2008)
- [375] Liu, R.Y.: On a notion of data depth based on random simplices. *Annals of Statistics* 18, 405–414 (1990)
- [376] Liu, Y., Rousseau, R.: Hirsch-type indices and library management: The case of Tongji University Library. In: Torres-Salinas, D., Moed, H.F. (eds.) *Proc. ISSI 2007*. pp. 514–522. CINDOC-CSIC, Madrid (2007)
- [377] Liu, Y., Rousseau, R.: Definitions of time series in citation analysis with special attention to the h -index. *Journal of Informetrics* 2(3), 202–210 (2008)
- [378] Lizasoain, I.: Quasi-OWA operators on complete lattices. In: Bustince, H., Fernandez, J., Mesiar, R., Calvo, T. (eds.) *Aggregation Functions in Theory and in Practice (AISC 228)*. pp. 521–532. Springer-Verlag (2013)
- [379] Lizasoain, I., Moreno, C.: OWA operators defined on complete lattices. *Fuzzy Sets and Systems* 224, 36–52 (2013)
- [380] Lovisolo, L., da Silva, E.A.B.: Uniform distribution of points on a hyper-sphere with applications to vector bit-plane encoding. *IEE Proceedings on Vision, Image and Signal Processing* 148(3), 187–193 (2001)
- [381] Lowrance, R., Wagner, R.A.: An extension of the string-to-string correction problem. *Journal of the ACM* 22(2), 177–183 (1975)
- [382] Luceno, A.: Fitting the Generalized Pareto Distribution to data using maximum goodness-of-fit estimators. *Computational Statistics and Data Analysis* 1(2), 904–917 (2006)
- [383] Ma, N., Guan, J., Zhao, Y.: Bringing PageRank to the citation analysis. *Information Processing & Management* 44, 800–810 (2008)
- [384] MacQueen, J.B.: Some methods for classification and analysis of multivariate observations. In: *Proc. Fifth Berkeley Symp. on Math. Statist. and Prob.* vol. 1, pp. 281–297. University of California Press, Berkeley (1967)
- [385] MacRoberts, M.H., MacRoberts, B.R.: Problems of citation analysis: A study of uncited and seldom-cited influences. *Journal of the American Society for Information Science and Technology* 61(1), 1–13 (2010)
- [386] Magiera, R.: *Modele i metody statystyki matematycznej. Część I. Rozkłady i symulacja stochastyczna*. GiS, Wrocław (2007)
- [387] Magiera, R.: *Modele i metody statystyki matematycznej. Część II. Wnioskowanie statystyczne*. GiS, Wrocław (2007)
- [388] Makino, J.: Productivity of research groups — Relation between citation analysis and reputation within research communities. *Scientometrics* 43(1), 87–93 (1998)
- [389] Mallig, N.: A relational database for bibliometric analysis. *Journal of Informetrics* 4(4), 564–580 (2010)
- [390] Marchant, T.: An axiomatic characterization of the ranking based on the h -index and some other bibliometric rankings of authors. *Scientometrics* 80(2), 325–342 (2009)
- [391] Marchant, T.: Score-based bibliometric rankings of authors. *Journal of the American Society for Information Science and Technology* 60(6), 1132–1137 (2009)
- [392] Marichal, J.L.: On an axiomatization of the quasi-arithmetic mean values without the symmetry axiom. *Æquationes Mathematicæ* 59(1–2), 74–83 (2000)
- [393] Marichal, J.L.: On order invariant synthesizing function. *Journal of Mathematical Psychology* 46(6), 661–676 (2002)
- [394] Marichal, J.L., Mathonet, P.: On comparison meaningfulness of aggregation functions. *Journal of Mathematical Psychology* 45(2), 213–223 (2001)
- [395] Marichal, J.L., Mathonet, P., Tousset, E.: Characterization of some aggregation functions stable for positive linear transformations. *Fuzzy Sets and Systems* 102, 293–314 (1997)

- [396] Marichal, J.L., Mesiar, R.: Aggregation of finite ordinal scales by scale independent functions. *Order* 21(2), 155–180 (2004)
- [397] Marichal, J.L., Mesiar, R., Růschlosová, T.: A complete description of comparison meaningful functions. *Æquationes Mathematicæ* 69, 309–320 (2005)
- [398] Marichal, J.L., Rubens, M.: Characterization of some stable aggregation functions. In: *Proc. 1st Conf. on Industrial Engineering and Production Management (IEPM'93)*. pp. 187–196 (1993)
- [399] Marsaglia, G.: Choosing a point from the surface of a sphere. *Annals of Mathematical Statistics* 43, 645–646 (1972)
- [400] Marsaglia, G., Marsaglia, J.: Evaluating the Anderson-Darling distribution. *Journal of Statistical Software* 9(2) (2004)
- [401] Martín, J., Mayor, G., Suñer, J.: On dispersion measures. *Mathware & Soft Computing* 8, 227–237 (2001)
- [402] Martín, J., Mayor, G.: Aggregating pairwise distance values. In: *Proc. EUROFUSE'09*. pp. 147–152 (2009)
- [403] Martín, J., Mayor, G.: How separated Palma, Inca and Manacor are? In: *Proc. AGOP 2009*. pp. 195–200 (2009)
- [404] Martín, J., Mayor, G.: Some properties of multi-argument distances and Fermat multidistance. In: Hüllermeier, E., et al. (eds.) *Information Processing and Management of Uncertainty in Knowledge-Based Systems*. vol. 80, pp. 703–711. Springer-Verlag (2010)
- [405] Martín, J., Mayor, G.: Multi-argument distances. *Fuzzy Sets and Systems* 167, 92–100 (2011)
- [406] Martín, J., Mayor, G., Valero, O.: Functionally expressible multidistances. In: Galichet, S., et al. (eds.) *Proc. Eusflat/LFA 2011*. pp. 41–46 (2011)
- [407] Matloff, N., Salzman, P.: *The Art of Debugging with GDB, DDD, and Eclipse*. No Starch Press (2008)
- [408] Matloff, N.: *The Art of R Programming: A Tour of Statistical Software Design*. No Starch Press (2011)
- [409] Matsumoto, M., Nishimura, T.: Mersenne twister: A 623-dimensionally equidistributed uniform pseudo-random number generator. *ACM Transactions on Modeling and Computer Simulation* 8(1), 3–30 (1998)
- [410] May, K.O.: A set of independent necessary and sufficient conditions for simple majority decision. *Econometrica* 20(4), 680–684 (1952)
- [411] May, K.O.: A note of the complete independence of the conditions for simple majority decision. *Econometrica* 21(1), 172–173 (1953)
- [412] Mayor, G., Calvo, T.: On extended aggregation functions. In: *Proc. IFSA 1997*. vol. 1, pp. 281–285. Academia, Prague (1997)
- [413] Mays, E., Damerau, F.J., Mercer, R.L.: Context based spelling correction. *Information Processing & Management* 27(2), 517–522 (1991)
- [414] Meho, L.I., Rogers, Y.: Citation counting, citation ranking, and *h*-index of human-computer interaction researchers: A comparison between *Scopus* and *Web of Science*. *Journal of the American Society for Information Science and Technology* 59(11), 1711–1726 (2008)
- [415] Meho, L.I., Sugimoto, C.R.: Assessing the scholarly impact of information studies: A tale of two citation databases — *Scopus* and *Web of Science*. *Journal of the American Society for Information Science and Technology* 60(12), 2499–2508 (2009)
- [416] Merigó, J.M., Casanovas, M., Yang, J.B.: Group decision making with expertons and uncertain generalized probabilistic weighted aggregation operators. *European Journal of Operational Research* 235, 215–224 (2014)
- [417] Mesiar, R., Pap, E.: Aggregation of infinite sequences. *Information Sciences* 178, 3557–3564 (2008)
- [418] Mesiar, R.: Fuzzy set approach to the utility, preference relations, and aggregation operators. *European Journal of Operational Research* 176, 414–422 (2007)

- [419] Mesiar, R., Mesiarová-Zemánková, A.: The ordered modular averages. *IEEE Transactions on Fuzzy Systems* 19(1), 42–50 (2011)
- [420] Mesiar, R., Rückschlossova, T.: Characterization of invariant aggregation operators. *Fuzzy Sets and Systems* 142, 63–73 (2004)
- [421] Mesiar, R., Stupňanová, A.: Decomposition integrals. *International Journal of Approximate Reasoning* 54(8), 1252–1259 (2013)
- [422] Meyer, D., Hornik, K.: *relations: Data Structures and Algorithms for Relations* (2013), <http://CRAN.R-project.org/package=relations>, r package version 0.6-2
- [423] Mingers, J., Lipkins, E.A.: Counting the citations: A comparison of *Web of Science* and *Google Scholar* in the field of business and management. *Scientometrics* 85, 613–625 (2010)
- [424] Miroiu, A.: Axiomatizing the hirsch index: Quantity and quality disjoined. *Journal of Informetrics* 7, 10–15 (2013)
- [425] Mittal, H.: *R Graphs Cookbook*. Packt Publishing (2011)
- [426] Miyamoto, S.: Application of rough sets to information retrieval. *Journal of the American Society for Information Science* 49(3), 195–205 (1998)
- [427] Moed, H.F.: Measuring contextual citation impact of scientific journals. *Journal of Informetrics* 4(3), 265–277 (2010)
- [428] Monahan, J.: *Numerical Methods of Statistics*. Oxford University Press (2001)
- [429] Morgan, H.L.: Spelling correction in systems programs. *Journal of the ACM* 13(2), 90–94 (1970)
- [430] Mosteller, C.F., Tukey, J.W.: *Data analysis and regression*. Addison-Wesley, Reading, Mass. (1977)
- [431] M.R. Garey, D.S. Johnson, H.W.: The complexity of the generalized Lloyd-Max problem. *IEEE Transactions on Information Theory* IT-28(2), 255–256 (1982)
- [432] Muenchen, R.: *R for SAS and SPSS Users*. Springer-Verlag (2011)
- [433] Muenchen, R., Hilbe, J.: *R for Stata Users*. Springer-Verlag (2010)
- [434] Murrell, P.: *R Graphics*. Chapman & Hall/CRC (2006)
- [435] Murrell, P.: Raster images in R graphics. *The R Journal* 3(1), 48–54 (2011)
- [436] Nair, G.M., Turlach, B.A.: The stochastic h -index. *Journal of Informetrics* 6(1), 80–87 (2012)
- [437] Narukawa, Y., Torra, V.: Multidimensional generalized fuzzy integral. *Fuzzy Sets and Systems* 160, 802–815 (2009)
- [438] Navarro, G.: A guided tour to approximate string matching. *ACM Computing Surveys* 33(1), 31–88 (2001)
- [439] Needleman, S., Wunsch, C.D.: A general method applicable to the search of similarities in the amino acid sequence of two proteins. *Journal of Molecular Biology* 48, 443–453 (1970)
- [440] Nelder, J., Mead, R.: A simplex method for function minimization. *Computer Journal* 7, 308–313 (1965)
- [441] Nelsen, R.: *An Introduction to Copulas*. Springer-Verlag (1999)
- [442] Nicholls, P.T.: Estimation of Zipf parameters. *Journal of the American Society for Information Science* 38(6), 443–445 (1987)
- [443] Nicholls, P.T.: Bibliometric modeling processes and the empirical validity of Lotka’s law. *Journal of the American Society for Information Science* 40(6), 379–385 (1989)
- [444] Nicolini, C., Vakula, S., Italo Balla, M., Gandini, E.: Can the assignment of university chairs be automated? *Scientometrics* 32(2), 93–107 (1995)
- [445] Nocedal, J., Wright, S.: *Numerical Optimization*. Springer-Verlag, New York (2006)
- [446] Norris, M., Oppenheim, C.: Peer review and the h -index: Two studies. *Journal of Informetrics* 4, 221–232 (2010)

- [447] Nowak, P.: Bibliometria. Webometria. Podstawy. Wybrane zastosowania. UAM, Poznań (2008)
- [448] Oetiker, T., Przechlewski, T., i in., R.K.: Nie za krótkie wprowadzenie do systemu L^AT_EX 2_ε (2007), <ftp.gust.org.pl/pub/CTAN/info/lshort/polish/lshort2e.pdf>
- [449] Ohki, M., Murofushi, T.: A ranking methodology using a new dispersion criterion on a group decision making. In: Proc. SCIS-ISIS 2012. pp. 1649–1653 (2012)
- [450] Oja, H.: Descriptive statistics for multivariate distributions. *Statistics & Probability Letters* 1, 327–332 (1983)
- [451] Orlov, A.I.: The connection between mean quantities and admissible transformations. *Mathematical Notes* 30(4), 774–778 (1981)
- [452] Ovchinnikov, S., Dukhovny, A.: On order invariant aggregation functionals. *Journal of Mathematical Psychology* 46, 12–18 (2002)
- [453] Page, L., Brin, S., Motwani, R., Winograd, T.: The PageRank citation ranking: Bringing order to the Web. Tech. rep., Stanford University (1998)
- [454] Palacios-Huerta, I., Volij, O.: The measurement of intellectual influence. *Econometrica* 72(3), 963–977 (2004)
- [455] Panaretos, J., Malesios, C.: Assessing scientific research performance and impact with single indices. *Scientometrics* 81(3), 635–670 (2009)
- [456] Papadimitriou, C., Steiglitz, K.: *Combinatorial Optimization: Algorithms and Complexity*. Prentice Hall, Englewood Cliffs, NJ (1982)
- [457] Park, H.S., Jun, C.H.: A simple and fast algorithm for K-medoids clustering. *Expert Systems with Applications* 36, 3336–3341 (2009)
- [458] Pearson, K.: Contributions to the mathematical theory of evolution. *Philosophical Transactions of the Royal Society A* 185, 71–110 (1894)
- [459] Pedrycz, W.: Shadowed sets: Representing and processing fuzzy sets. *IEEE Transactions on Systems, Man, and Cybernetics* 28(1), 103–109 (1998)
- [460] Peneva, V., Popchev, I.: Aggregation of fuzzy preference relations to multicriteria decision making. *Fuzzy Optimization and Decision Making* 6, 351–365 (2007)
- [461] Pitman, E.: The estimation of the location and scale parameters of a continuous population of any given form. *Biometrika* 30, 391–421 (1939)
- [462] Podlubny, I.: Comparison of scientific impact expressed by the number of citations in different fields of science. *Scientometrics* 64(1), 95–99 (2005)
- [463] Prathap, G.: Is there a place for a mock *h*-index? *Scientometrics* 84, 153–165 (2010)
- [464] Press, W., Teukolsky, S., Vetterling, W., Flannery, B.: *Numerical Recipes. The Art of Scientific Computing*. Cambridge University Press (2007)
- [465] Price, D.J.: Networks of scientific papers. *Science* 149(3683), 510–515 (1965)
- [466] Proń, A., Szatyłowicz, H.: Habilitacja dodaje „skrzydeł”? *Forum Akademickie* 3 (2006)
- [467] Prpić, K.: Science ethics: A study of eminent scientists’ professional values. *Scientometrics* 43(2), 269–298 (1998)
- [468] Quesada, A.: Monotonicity and the Hirsch index. *Journal of Informetrics* 3(2), 158–160 (2009)
- [469] Quesada, A.: More axiomatics for the Hirsch index. *Scientometrics* 82, 413–418 (2010)
- [470] Quesada, A.: Axiomatics for the hirsch index and the egghe index. *Journal of Informetrics* 5(3), 476–480 (2011)
- [471] Quesada, A.: Further characterizations of the Hirsch index. *Scientometrics* 87, 107–114 (2011)
- [472] Rao, C.R.: *Statistics and truth. Putting chance to work*. World Scientific Publishing (1999)

- [473] Rardin, R.: Optimization in Operations Research. Prentice Hall, Englewood Cliffs (1998)
- [474] Rasiowa, H.: Wstęp do matematyki współczesnej. PWN, Warszawa (2003)
- [475] Richardson, M., Domingos, P.: The intelligent surfer: Probabilistic combination of link and content information in PageRank. In: Proc. Advances in Neural Information Processing Systems. vol. 14, pp. 1441–1448. MIT Press, Cambridge, MA (2002)
- [476] Ripley, B.: Internationalization features of R 2.1.0. R News 5(1), 2–7 (2005)
- [477] Robert, C., Casella, G.: Monte Carlo Statistical Methods. Springer-Verlag (2004)
- [478] Rothschild, M., Stiglitz, J.: Increasing risk: I. A definition. Journal of Economic Theory 2(3), 225–243 (1970)
- [479] Roubens, M., Vincke, P.: Preference modeling. Lecture Notes in Economics and Mathematical Systems 250, Springer-Verlag, Berlin (1985)
- [480] Rousseau, R.: Relations between continuous versions of bibliometric laws. Journal of the American Society for Information Science 41(3), 197–203 (1990)
- [481] Rousseau, R.: Citation analysis as a theory of friction or polluted air? Scientometrics 43(1), 63–67 (1998)
- [482] Rousseau, R.: The influence of missing publications on the Hirsch index. Journal of Informetrics 1(1), 2–7 (2007)
- [483] Rousseau, R.: Reflections on recent developments of the h -index and h -type indices. COLLNET Journal of Scientometrics and Information Management 2(1), 1–8 (2008)
- [484] Rousseau, R.: Woeginger’s axiomatisation of the h -index and its relation to the g -index, the $h(2)$ -index and the r^2 -index. Journal of Informetrics 2(4), 335–340 (2008)
- [485] Rousseeuw, P.J., Croux, C.: Alternatives to the median absolute deviation. Journal of the American Statistical Association 88(424), 1273–1283 (1993)
- [486] Rousseeuw, P.J., Hubert, M.: Regression depth. Journal of the American Statistical Association 94(446), 388–402 (1999)
- [487] Rousseeuw, P.J., Ruts, I.: Constructing the bivariate Tukey median. Statistica Sinica 8, 827–839 (1998)
- [488] Rousseeuw, P.J., Ruts, I., Tukey, J.W.: The bagplot: A bivariate boxplot. The American Statistician 53(4), 382–387 (1999)
- [489] Rousseeuw, P.J., Struyf, A.: Computation of robust statistics: depth, median, and related measures. In: Goodman, J.E., O’Rourke, J. (eds.) The Handbook of Discrete and Computational Geometry, pp. 1279–1292. Chapman & Hall/CRC, Boca Raton (2004)
- [490] Rubin, D., Little, R.: Statistical Analysis with Missing Data. John Wiley & Sons (2002)
- [491] Rytgaard, M.: Estimation in the Pareto distribution. ASTIN bulletin 20(2), 201–216 (1990)
- [492] Saaty, T.: Fundamentals of decision making and priority theory with the analytic hierarchy process. RWS Publications, Pittsburgh (1994)
- [493] Sanchez, D., Trillas, E.: Measures of fuzziness under different uses of fuzzy sets. In: Greco, S., et al. (eds.) Proc. IPMU 2012 (CCIS 298). pp. 25–43. Springer-Verlag (2012)
- [494] Sarkar, D.: Lattice: Multivariate Data Visualization with R. Springer-Verlag (2008)
- [495] Schmidberger, M., Morgan, M., Eddelbuettel, D., Yu, H., Tierney, L., Mansmann, U.: State of the art in parallel computing with R. Journal of Statistical Software 31(1), 1–27 (2009)
- [496] Schön, J.H., et al.: Field-effect modulation of the conductance of single molecules. Science 2138(294) (2001), artykuł został wycofany z powodu fałszerstwa wyników (przykład do rozdz. 1).
- [497] Schreiber, M.: How to modify the g -index for multi-authored manuscripts. Journal of Informetrics 4(1), 42–52 (2001)
- [498] Schreiber, M.: A case study of Hirsch index for 26 non-prominent physicists. Annalen der Physik 16(9), 640–652 (2007)

- [499] Schreiber, M.: A modification of the h -index: The h_m -index accounts for multi-authored manuscripts. *Journal of Informetrics* 2(3), 211–216 (2008)
- [500] Schreiber, M.: A case study of the modified Hirsch index h_m accounting for multiple coauthors. *Journal of the American Society for Information Science and Technology* 60(6), 1274–1282 (2009)
- [501] Schreiber, M.: Fractionalized counting of publications for the g -index. *Journal of the American Society for Information Science and Technology* 60(10), 2145–2150 (2009)
- [502] Schubert, A.: Using the h -index for assessing single publications. *Scientometrics* 78(3), 559–565 (2009)
- [503] Schubert, A., Glänzel, W.: A systematic analysis of Hirsch-type indices for journals. *Journal of Informetrics* 1, 179–184 (2007)
- [504] Schubert, A., Korn, A., Telcs, A.: Hirsch-type indices for characterizing networks. *Scientometrics* 78(2), 375–382 (2009)
- [505] Schutte, H.K., Svec, J.G.: Reaction of *Folia Phoniatica et Logopaedica* on the current trend of Impact Factor measures. *Folia Phoniatica et Logopaedica* 59, 281–285 (2007)
- [506] of Science Editors, E.A.: EASE statement on inappropriate use of impact factors (1998), URL: http://www.ease.org.uk/statements/EASE_statement_on_impact_factors.shtml
- [507] Serfling, R.J.: Approximation theorems of mathematical statistics. John Wiley & Sons, New York (1980)
- [508] Shao, J.: Mathematical Statistics. Springer (2007)
- [509] Shevtsova, I.G.: Sharpening of the upper bound of the absolute constant in the Berry-Esseen inequality. *Theory of Probability and its Applications* 51(3) (2007)
- [510] Shiganov, I.S.: Refinement of the upper bound of the constant in the central limit theorem. *Journal of Mathematical Sciences* 35(3), 2545–2550 (1986)
- [511] Shilkret, N.: Maxitive measure and integration. *Indagationes Mathematicæ* 33, 109–116 (1971)
- [512] Shumway, R., D.S., D.S.: Time Series Analysis and Its Applications with R Examples. Springer-Verlag (2011)
- [513] Sidiropoulos, A., Katsaros, D., Manolopoulos, Y.: Generalized h -index for disclosing latent facts in citation networks. *Scientometrics* 72(2), 253–280 (2007)
- [514] Silberschatz, A., Peterson, J., Gagne, G.: Podstawy systemów operacyjnych. WNT, Warszawa (2005)
- [515] Simkin, M.V., Roychowdhury, V.P.: Read before you cite! *Complex Syst.* 14, 269–274 (2003)
- [516] Sinova, B., Ángeles Gil, M., Colubi, A., Van Aelst, S.: The median of a random fuzzy number. The 1-norm distance approach. *Fuzzy Sets and Systems* 200, 99–115 (2012)
- [517] Small, C.G.: A survey of multidimensional medians. *International Statistical Review* 58(3), 263–277 (1990)
- [518] Small, H.: Citations and consilience in science. *Scientometrics* 43(1), 143–148 (1998)
- [519] Small, H.: Paradigms, citations, and maps of science: A personal history. *Journal of the American Society for Information Science and Technology* 54(5), 394–399 (2003)
- [520] Soetaert, K., Petzoldt, T., Setzer, R.: Solving differential equations in R. *The R Journal* 2(2), 5–15 (2010)
- [521] Soler, J.M.: A rational indicator of scientific creativity. *Journal of Informetrics* 1(2), 123–130 (2007)
- [522] Spector, P.: Data Manipulation with R. Springer-Verlag (2008)
- [523] Stefanini, L., Sorini, L.: Fuzzy arithmetic with parametric LR fuzzy numbers. In: *Proc. IFSA/EUSFLAT 2009*. pp. 600–605 (2009)
- [524] Stevens, S.S.: On the theory of scales of measurement. *Science* 103(2684), 677–680 (1946)
- [525] Stewart, T.A.: Intellectual capital — The new wealth of organizations. Nicholas Brealey Publishing (1997)
- [526] Stoer, J., Bulirsch, R.: Wstęp do analizy numerycznej. PWN, Warszawa (1987)

- [527] Strotmann, A., Zhao, D.: Author name disambiguation: What difference does it make in author-based citation analysis? *Journal of the American Society for Information Science and Technology* 63, 1820–1933 (2012)
- [528] Stubblebine, T.: *Wyrażenia regularne. Leksykon kieszonkowy*. Helion, Gliwice (2001)
- [529] Sugeno, M.: *Theory of fuzzy integrals and its applications*. Ph.D. thesis, Tokyo Institute of Technology (1974)
- [530] Sun, H., Wei, Y.: A note on the PageRank algorithm. *Applied Mathematics and Computation* 179, 799–806 (2006)
- [531] Sylvester, J.J.: A question in the geometry of situation. *Quarterly Journal of Mathematics* 1, 79 (1857)
- [532] Szydlowski, M., Krawiec, A.: Scientific cycle model with delay. *Scientometrics* 52(1), 83–95 (2001)
- [533] Szydlowski, M., Krawiec, A.: Growth cycles of knowledge. *Scientometrics* 78(1), 99–111 (2009)
- [534] Szymanski, B.K., de la Rosa, J.L., Krishnamoorthy, M.: An internet measure of the value of citations. *Information Sciences* 185, 18–31 (2012)
- [535] Tanenbaum, A.: *Systemy operacyjne*. Helion, Gliwice (2010)
- [536] The CGAL Project: CGAL User and Reference Manual. CGAL Editorial Board, 4.5 edn. (2015), <http://doc.cgal.org/4.5/Manual/packages.html>
- [537] Torra, V.: The weighted OWA operator. *International Journal of Intelligent Systems* 12, 153–166 (1997)
- [538] Torra, V. (ed.): *Information fusion in data mining, Studies in Fuzziness and Soft Computing*, vol. 123. Springer-Verlag (2003)
- [539] Torra, V., Narukawa, Y.: The h -index and the number of citations: Two fuzzy integrals. *IEEE Transactions on Fuzzy Systems* 16(3), 795–797 (2008)
- [540] Tukey, J.W.: Mathematics and the picturing of data. *Proc. Intl. Congress of Mathematicians* pp. 523–531 (1974)
- [541] Tukey, J.: Some graphic and semigraphic displays. In: Bancroft, T. (ed.) *Statistical Papers in Honor of George W. Snedecor*, pp. 293–316. Ames (1972)
- [542] Ukkonen, E.: On approximate string matching. *Lecture Notes in Computer Science* 158, 487–495 (1983)
- [543] Ukkonen, E.: Approximate string-matching with q -grams and maximal matches. *Theoretical Computer Science* 92, 191–211 (1992)
- [544] van der Loo, M.: The stringdist package for approximate string matching. *The R Journal* 6(1), 111–122 (2014)
- [545] van Eck, N.J., Waltman, L.: Generalizing the h - and g -indices. *Journal of Informetrics* 2(4), 263–271 (2008)
- [546] van Raan, A.: Sleeping beauties in science. *Scientometrics* 59(3), 467–472 (2004)
- [547] van Raan, A.F.J.: In matters of quantitative studies of science. The fault of theorists is offering too little and asking too much. *Scientometrics* 43(1), 129–139 (1998)
- [548] van Raan, A.F.J.: Comparison of the Hirsch-index with standard bibliometric indicators and with peer judgment for 147 chemistry research groups. *Scientometrics* 67(3), 491–502 (2006)
- [549] Vanclay, J.K.: On the robustness of the h -index. *Journal of the American Society for Information Science and Technology* 58(10), 1547–1550 (2007)
- [550] Vannucci, S.: Dominance dimension: A common parametric formulation for integer-valued scientific impact indices. *Scientometrics* 84, 43–48 (2010)
- [551] Vazquez, A.: *Statistics of citation networks* (2001), [arXiv:cond-mat/0105031v1](https://arxiv.org/abs/cond-mat/0105031v1)
- [552] Venables, W., Ripley, B.: *S Programming*. Springer-Verlag (2000)
- [553] Venables, W., Ripley, B.: *Modern Applied Statistics with S*. Springer-Verlag (2002)

- [554] Vieira, E.S., Gomes, J.A.: Citations to scientific articles: Its distribution and dependencies on the article features. *Journal of Informetrics* 4, 1–13 (2010)
- [555] Vieira, E.S., Gomes, J.A.: A comparison of *Scopus* and *Web of Science* for a typical university. *Scientometrics* 81(2), 587–600 (2009)
- [556] Villasenor-Alva, J., Gonzalez-Estrada, E.: A bootstrap goodness of fit test for the Generalized Pareto Distribution. *Computational Statistics and Data Analysis* 53(11), 3835–3841 (2009)
- [557] Vinkler, P.: Comparative investigation of frequency and strength of motives toward referencing. The reference threshold model. *Scientometrics* 43(1), 107–127 (1998)
- [558] Vinogradov, A.E.: Secular trend of academician aging. *Scientometrics* 43(1), 149–160 (1998)
- [559] von Neumann, J., Morgenstern, O.: *Theory of games and economic behavior*. Princeton University Press, Princeton (1947)
- [560] Wagner, R.A., Fischer, M.J.: The string-to-string correction problem. *Journal of the ACM* 21(1), 168–173 (1974)
- [561] Wagner-Döbler, R.: Where has the cumulative advantage gone? some observations about the frequency distribution of scientific productivity, of duration of scientific participation, and of speed of publication. *Scientometrics* 32(2), 123–132 (1995)
- [562] Waltman, L., van Eck, N.J.: The inconsistency of the h-index. *Journal of the American Society for Information Science and Technology* 63(2), 406–415 (2012)
- [563] Waltman, L., van Eck, N.J., Wouters, P.: Counting publications and citations: Is more always better? *Journal of Informetrics* 7, 635–641 (2013)
- [564] Wandelt, S., et al.: State-of-the-art in string similarity search and join. *SIGMOD Record* 43(1), 64–76 (2014)
- [565] Warshall, S.: A theorem on boolean matrices. *Journal of the ACM* 9(1), 11–12 (1962)
- [566] Weber, S.: Measures of fuzzy sets and measures of fuzziness. *Fuzzy Sets and Systems* 13, 247–271 (1984)
- [567] Weiszfeld, E.: Sur le point par lequel la somme des distances de n points donnés est minimum. *Tohoku Mathematics Journal* 43, 355–386 (1937)
- [568] Welzl, E.: Smallest enclosing disks (balls and ellipsoids). *Lecture Notes in Computer Science* 555, 359–370 (1991)
- [569] Wickham, H.: *ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag (2009)
- [570] Wickham, H.: *stringr: modern, consistent string processing*. *The R Journal* 2(2), 38–40 (2010)
- [571] Wickham, H.: *testthat: Get started with testing*. *The R Journal* 3(1), 5–10 (2011)
- [572] Wiczorkowski, R., Zieliński, R.: *Komputerowe generatory liczb losowych*. WNT, Warszawa (1997)
- [573] Wilkin, T., Beliakov, G.: Weakly monotonic averaging functions. *International Journal of Intelligent Systems* 30(2), 144–169 (2015)
- [574] Wilkin, T., Beliakov, G., Calvo, T.: Weakly monotone averaging functions. *Communications in Computer and Information Science* 444, 364–373 (2014)
- [575] Wilkinson, L.: *The Grammar of Graphics*. Springer-Verlag (2005)
- [576] Woeginger, G.J.: An axiomatic analysis of Egghe’s g -index. *Journal of Informetrics* 2(4), 364–368 (2008)
- [577] Woeginger, G.J.: An axiomatic characterization of the Hirsch-index. *Mathematical Social Sciences* 56(2), 224–232 (2008)
- [578] Woeginger, G.J.: A symmetry axiom for scientific impact indices. *Journal of Informetrics* 2, 298–303 (2008)
- [579] Woeginger, G.J.: Generalizations of Egghe’s g -index. *Journal of the American Society for Information Science and Technology* 60(6), 1267–1273 (2009)

- [580] Woeginger, G.J.: An algorithmic comparison of three scientific impact indices. *Acta Cybernetica* 19, 661–672 (2010)
- [581] Wolsey, L.: *Integer Programming*. John Wiley & Sons, New York (1998)
- [582] Wróblewski, A.K.: Bibliometryczne nieporozumienia. *Forum Akademickie* 9 (2001)
- [583] Wu, Q.: The w -index: A measure to assess scientific impact by focusing on widely cited papers. *Journal of the American Society for Information Science and Technology* 61(3), 609–614 (2010)
- [584] Xie, Y.: *Dynamic Documents with R and knitr*. Chapman & Hall/CRC (2013)
- [585] Yager, R.R.: On ordered weighted averaging aggregation operators in multicriteria decision making. *IEEE Transactions on Systems, Man, and Cybernetics* 18(1), 183–190 (1988)
- [586] Yager, R.R.: Prioritized aggregation operators. *International Journal of Approximate Reasoning* 48(1), 263–274 (2008)
- [587] Yager, R.R.: On generalized Bonferroni mean operators for multi-criteria aggregation. *International Journal of Approximate Reasoning* 50, 1279–1286 (2009)
- [588] Yager, R.R., Filev, D.P.: *Essentials of fuzzy modeling and control*. Wiley (1994)
- [589] Yager, R.R., Kacprzyk, J. (eds.): *The ordered weighted averaging operators. Theory and applications*. Kluwer Academic Publishers, Norwell (1997)
- [590] Yager, R.R., Rybalov, A.: Understanding the median as a fusion operator. *International Journal of General Systems* 26(3), 239–263 (1997)
- [591] Yan, J.: Enjoy the joy of copulas: With a package `copula`. *Journal of Statistical Software* 21(4), 1–21 (2007)
- [592] Yang, F., Sun, T., Zhang, C.: An efficient hybrid data clustering method based on K-harmonic means and particle swarm optimization. *Expert Systems with Applications* 36, 9847–9852 (2009)
- [593] Yeh, C.T.: Trapezoidal and triangular approximations preserving the expected interval. *Fuzzy Sets and Systems* 159, 1345–1353 (2008)
- [594] Yin, M., Hu, Y., Yang, F., Li, X., Gu, W.: A novel hybrid K-harmonic means and gravitational search algorithm approach for clustering. *Expert Systems with Applications* 38, 9319–9324 (2011)
- [595] Young, N.S., Ioannidis, J.P.A., Al-Ubaydli, O.: Why current publication practices may distort science. *PLoS Medicine* 5(10), 1418–1422 (2008)
- [596] Yu, H., Davis, M., Wilson, C.S., Cole, F.T.H.: Object-oriented data modelling for informetric databases. *Journal of Informetrics* 2(3), 240–251 (2008)
- [597] Zadeh, L.A.: Fuzzy sets. *Information and Control* 8, 338–353 (1965)
- [598] Zeng, W., Li, H.: Inclusion measures, similarity measures, and the fuzziness of fuzzy sets and their relations. *International Journal of Intelligent Systems* 21, 639–653 (2006)
- [599] Zhang, B.: K-harmonic means – A data clustering algorithm. Tech. Rep. HPL-1999-124, HP Laboratories, Palo Alto (1999)
- [600] Zhang, B., Hsu, M., Dayal, U.: K-harmonic means - A spatial clustering algorithm with boosting. *Lecture Notes in Artificial Intelligence* 2007, 31–45 (2001)
- [601] Zhang, J.: Improving on estimation for the Generalized Pareto Distribution. *Technometrics* 52(3), 335–339 (2010)
- [602] Zhang, J., Stephens, M.A.: A new and efficient estimation method for the Generalized Pareto Distribution. *Technometrics* 51(3), 316–325 (2009)
- [603] Zhivotovsky, L.A., Krutowsky, K.V.: Self-citation can inflate h -index. *Scientometrics* 77(2), 373–375 (2008)
- [604] Zieliński, R.: *Siedem wykładów wprowadzających do statystyki matematycznej*. PWN, Warszawa (1990)
- [605] Zieliński, R.: Przedziały ufności dla frakcji. *Matematyka Stosowana* 10, 51–68 (2009)
- [606] Życzkowski, K.: Indeksy cytowań i wiosła. *Forum Akademickie* 9, 22–25 (2008)