

# Bibliography

- [1] Akishin, B. A. and Ivakhnenko, A. G., "Extrapolation (Prediction) Using Monotonically Varying Noisy Data," *Soviet Automatic Control*, 8, 4, (1975), 17-23.
- [2] Aksenova, T. I., "Sufficient Convergence Conditions for External Criteria for Model Selection," *Soviet Journal of Automation and Information Sciences*, 22, 5, (1989) 49-53.
- [3] Aleksander, I. (ed), *Neural Computing Architectures—the Design of Brain-Like Machines*, (MIT press, 1989), 401.
- [4] Arbib, M. A., *Brains, Machines and Mathematics*, (Springer Verlag, NY, 2nd edition, 1987).
- [5] Arbib, M. A. and Amari, S. (eds.), *Dynamic Interactions in Neural Networks: Models and Data*, (Springer Verlag, 1989), p. 280.
- [6] Barron, R. L., "Adaptive Transformation Networks for Modeling, Prediction, and Control," *IEEE Systems, Man and Cybernetics Group Annual Symposium Record*, (1977) 254-263.
- [7] Barron, A. R. and Barron, R. L., "Statistical Learning Networks: A Unifying View," *Symposium on the Interface: Statistics and Computer Science*, Reston, Virginia (1988).
- [8] Basar, E., Flohr, H., Haken, H. and Mandell, J. (eds.), *Synergetics of Brain*, (Springer Verlag 1983).
- [9] Beck, M. B., "Modeling of Dissolved Oxygen in a Nontidal Stream," in James, A. (ed.) *The Use of Mathematical Models in Water Pollution Control*, (Wiley, NY, 1976), 1-38.
- [10] Beer, S. T, *Cybernetics and Management*, (1963).
- [11] Box, G. E. P. and Jenkins, G. M., *"Time Series Analysis; Forecasting and Control"* (Holden-Day, San Francisco, USA, Revised edition, 1976).
- [12] Duffy, J. and Franklin, M., "An Identification Algorithm and Its Application to an Environmental System," *IEEE Transactions on Systems, Man, and Cybernetics*, SMC 5, 2, (1975) 226-240.
- [13] Dyshin, O. A., "Noise Immunity of the Selection Criteria for Regression Models with Correlated Perturbations," *Soviet Journal of Automation and Information Sciences*, 21, 3, (1988) 16-24.
- [14] Dyshin, O. A., "Asymptotic Properties of Noise Immunity of the Criteria of Model Accuracy," *Soviet Journal of Automation and Information Sciences*, 22, 1, (1989) 91-98.
- [15] Edelman, G. M., *Neural Darwinism—the Theory of Neural Group Selection*, (Basic Books, 1987), 371.
- [16] Farlow, S. J. (ed.), *Self Organizing Methods in Modeling: GMDH Type Algorithms*, (Marcel Dekker Inc., New York, 1984), 350.
- [17] Feigenbaum, E. A. and McCorduck, P., *The Fifth Generation*, (Pan Books, 1983).
- [18] Fogelman, Soulie, F., Robert, Y. and Tchuenté, M. (eds), *Automata Networks in Comp Sci: Theory and Applications*, (Princeton University press, 1987).
- [19] Fokas, A. S., Papadopoulou, E. P. and Saridakis, Y. G., "Soliton Cellular Automata," *Physica D*, 41, (1990), 297-321.
- [20] Forrester, J. W., *World Dynamics*, (Wright-Allen Press, 1971).
- [21] Gabor, D., Wildes, W. and Woodcock, R., "A Universal Nonlinear Filter, Predictor and Simulator Which Optimizes Itself by a Learning Process," *IEE Proceedings*, **108B**, (1961), 422-438.

- [22] Gabor, D., "Cybernetics and the Future of Industrial Civilization," *Journal of Cybernetics*, 1, (1971), 1–4.
- [23] Heisenberg, W., *The Physical Principles of the Quantum Theory*, Eckart, E. and Hoyt, C. (Trans.), (University of Chicago press, Chicago, IL, 1930), 183.
- [24] Hinton, G. E. and Anderson, J. (eds.), *Parallel Models of Associative Memory*, (Hillsdale, New Jersey: Lawrence Erlbaum 1981).
- [25] Holland, J. H., Holyoak, K. J., Nisbett, R. E. and Thagard, P. R., *Induction: Processes of Inference, Learning, and Discovery*, (MIT Press, Cambridge, Massachusetts 1986).
- [26] Hopfield, J. J., "Neural Networks and Physical Systems with Emergent Collective Computational Abilities," *Proceedings Natl Acad Sci USA*, 79, (1982), 2554–2558.
- [27] Ihara, J., "Unique Selection of Model by Balance-of-Variables Criterion—Letter to the Editor and Authors' Reply," *Soviet Automatic Control*, 9, 1, (1976), 70-72.
- [28] Ikeda, S., Ochiai, M. and Sawaragi, Y., "Sequential GMDH Algorithm and Its Application to River Flow Prediction," *IEEE Transactions on Systems, Man and Cybernetics*, SMC, (1976), 473–479.
- [29] Ivakhnenko, A. G., "Polynomial Theory of Complex Systems," *IEEE transactions on Systems, Man, and Cybernetics*, SMC-1, 4, (1971), 364-378.
- [30] Ivakhnenko, A. G., "The Group Method of Data Handling in Long-Range Forecasting," *Technological Forecasting and Social Change*, 12, 2/3, (1978), 213-227.
- [31] Ivakhnenko, A. G., "Prediction of the Future: State of the Art and Perspectives," *Soviet Automatic Control*, 13, 2, (1980), 77–81.
- [32] Ivakhnenko, A. G., "Features of the Group Method of Data Handling Realizable in An Algorithm of Two-Level Long-Range Quantitative Forecasting," *Soviet Automatic Control*, 16, 2, (1983), 1-8.
- [33] Ivakhnenko, A. G., "Dialogue Language Generalization as a Method for Reducing the Participation of a Man in Solving Problems of System Analysis," *Soviet Automatic Control*, 16, 5, (1983), 1–11.
- [34] Ivakhnenko, A. G. and Ivakhnenko, N. A., "Nonparametric GMDH Predicting Models Part 2. Indicative Systems for Selective Modeling, Clustering, and Pattern Recognition," *Soviet Journal of Automation and Information Sciences*, 22, 2, (1989), 1-10.
- [35] Ivakhnenko, A. G. and Karpinskiy, A. M., "Computer Self Organization of Models in Terms of General Communication Theory (Information Theory)," *Soviet Automatic Control*, 15, 4, (1982), 5-22.
- [36] Ivakhnenko, A. G. and Koherga, Yu L., "Theory of Two-level GMDH Algorithms for Long-Range Quantitative Prediction," *Soviet Automatic Control*, 16, 6, (1983), 7-12.
- [37] Ivakhnenko, A. G., Koppa, Yu V., Lantayeva, D. N. and Ivakhnenko, N. A., "The Relationship Between Computer Self Organization of Mathematical Models and Pattern Recognition," *Soviet Automatic Control*, 13, 3, (1980), 1-9.
- [38] Ivakhnenko, A. G., Koppa, Yu V. and Kostenko, Yu V., "Systems Analysis and Long-Range Quantitative Prediction of Quasi-static Systems on the Basis of Self-organization of Models, Part 3. Separation of Output Variables According to Degree of Exogenicity for Restoration of the Laws Governing the Modeling Object," *Soviet Automatic Control*, 17, 4, (1984), 7-14.
- [39] Ivakhnenko, A. G., Koppa, Yu V., Petukhova, S. A. and Ivakhnenko, M. A., "Use of Self-organization to Partition a Set of Data into Clusters Whose Number is not Specified in Advance," *Soviet Journal of Automation and Information Sciences*, 18, 5, (1985), 7-14.
- [40] Ivakhnenko, A. G. and Kostenko Yu V., "Systems Analysis and Long-Range Quantitative Prediction of Quasistatic Systems on the Basis of Self-organization of Models. Part I. Systems Analysis at the Level of Trends," *Soviet Automatic Control*, 15, 3, (1982), 9-17.
- [41] Ivakhnenko, A. G., Kostenko, Yu V. and Goleusov, I. V., "Systems Analysis and Long-Range Quantitative Prediction of Quasistatic Systems on the Basis of Self-organization of Models. Part 2. Objective Systems Analysis without em a priori Specification of External Influences," *Soviet Automatic Control*, 16, 3, (1983), 1-8.
- [42] Ivakhnenko, A. G., Kovalchuk, P. I., Todua, M. M., Shelud'ko, O. I., and Dubrovin, O. F., "Unique Construction of Regression Curve Using a Small Number of Points—Part 2," *Soviet Automatic Control*, 6, 5, (1973), 29–41.
- [43] Ivakhnenko, A. G., Kovalenko, S. D., Kostenko, Yu V. and Krotov G. I., "An Experiment of Self-organization of the Models for Forecasting Radio-Communication Conditions," *Soviet Automatic Control*, 16, 6, (1983), 1-6.

- [44] Ivakhnenko, A. G. and Kozubovskiy, S. F., "The Correlation Interval as a Measure of the Limit of Predictability of a Random Process and Detailization of the Modeling Language," *Soviet Automatic Control*, 14, 4, (1981), 1-6.
- [45] Ivakhnenko, A. G. and Kritskiy, A. P., "Recovery of a Signal or a Physical Model by Extrapolating the Locus of the Minima of the Consistency Criterion," *Soviet Journal of Automation and Information Sciences*, 19, 3, (1986), 25-31.
- [46] Ivakhnenko, A. G. and Krotov, G. I., "Simulation of Environmental Pollution in the Absence of Information about Disturbances," *Soviet Automatic Control*, 10, 5, (1977), 8-22.
- [47] Ivakhnenko, A. G. and Krotov G. I., "Comparative Studies in Self-organization of Physical Field Models," *Soviet Automatic Control*, 11, 5, (1978), 42-52.
- [48] Ivakhnenko, A. G., Krotov, G. I. and Cheberkus, V. I., "Multilayer Algorithm for Self organization of Long Term Predictions (Illustrated by the Example of the Lake Baikal Ecological System)," *Soviet Automatic Control*, 13, 4, (1980), 22-38.
- [49] Ivakhnenko, A. G., Krotov, G. I. and Stepashko, V., "Harmonic and Exponential Harmonic GMDH Algorithms, Part 2. Multilayer Algorithms with and without Calculation of Remainders," *Soviet Automatic Control*, 16, 1, (1983), 1-9.
- [50] Ivakhnenko, A. G. and Krotov, G. I., "Modeling of a GMDH Algorithm for Identification and Two-Level Long-Range Prediction of the Ecosystem of Lake Baykal," *Soviet Automatic Control*, 16, 2, (1983), 9-14.
- [51] Ivakhnenko, A. G. and Krotov, G. I., "A Multiplicative-additive Nonlinear GMDH Algorithm with Optimization of the Power of Factors," *Soviet Automatic Control*, 17, 3, (1984), 10-15.
- [52] Ivakhnenko, A. G., Krotov, G. I. and Kostenko Yu V., "Optimization of the Stability of the Transient Component of a Long-Range Prediction," *Soviet Journal of Automation and Information Sciences*, 18, 4, (1985), 1-9.
- [53] Ivakhnenko, A. G., Krotov, G. I. and Strokova, T. I., "Self-Organization of Dimensionless Harmonic-exponential and Correlation Predicting Models of Standard Structure," *Soviet Automatic Control*, 17, 4, (1984), 15-26.
- [54] Ivakhnenko, A. G., Krotov, G. I. and Yurachkovskiy, Yu P., "An Exponential-harmonic Algorithm of the Group Method of Data Handling," *Soviet Automatic Control*, 14, 2, (1981), 21-27.
- [55] Ivakhnenko, A. G., Osipenko, V. V. and Strokova, T. I., "Prediction of Two-dimensional Physical Fields Using Inverse Transition Matrix Transformation," *Soviet Automatic Control*, 16, 4, (1983), 10-15.
- [56] Ivakhnenko, A. G., Peka, P. Yu and Koshul'ko, A. I., "Simulation of the Dynamics of the Mineralization Field of Aquifers with Optimization of Porosity Estimate of the Medium," *Soviet Automatic Control*, 9, 4, (1976), 28-35.
- [57] Ivakhnenko, A. G., Peka, P. Yu and Yakovenko, P. I., "Identification of Dynamic Equations of a Complex Plant on the Basis of Experimental Data by Using Self-organization of Models Part 2. Multidimensional Problems," *Soviet Automatic Control*, 10, 2, (1977), 31-37.
- [58] Ivakhnenko, A. G. and Madala H. R., "Prediction and Extrapolation of Meteorological Fields by Model Self Organization," *Soviet Automatic Control*, 12, 6, (1979), 13-27.
- [59] Ivakhnenko, A. G. and Madala H. R., "Self-Organization GMDH Algorithms for Modeling and Long-Term Prediction of Cyclic Processes such as Tea Crop Production," *Proceedings of International Conference on Systems Engineering, Coventry Polytechnic, England, UK*, (1980), 580-594.
- [60] Ivakhnenko, A. G. and Madala H. R., "Application of the Group Method of Data Handling to the Solution of Meteorological and Climatological Problems," *Soviet Journal of Automation and Information Sciences*, 19, 1, (1986), 72-80.
- [61] Ivakhnenko, A. G., Sarychev, A. P., Zalevskiy, P. I. and Ivakhnenko, N. A., "Experience of Solving the Problem of Predicting Solar Activity with Precise and Robust Approaches," *Soviet Journal of Automation and Information Sciences*, 21, 3, (1988), 31-42.
- [62] Ivakhnenko, A. G., Sirenko, L. A., Denisova, A. I., Ryabov, A. I., Sarychev, A. P. and Svetalskiy, B. K., "Objective Systems Analysis of the Ecosystem of the Kakhovka Reservoir Using the Unbiasedness Criterion," *Soviet Automatic Control*, 16, 1, (1983), 64-73.
- [63] Ivakhnenko, A. G. and Stepashko, V. S., "Numerical Investigation of Noise Stability of Multicriterion Selection of Models," *Soviet Automatic Control*, 15, 4, (1982), 23-32.

- [64] Ivakhnenko, A. G., Stepashko, V. S., Khomovnenko, M. G. and Galyamin, E. P., "Self Organization Models of Growth Dynamics in Agricultural Production for Control of Irrigated Crop Rotation," *Soviet Automatic Control*, 10, 5, (1977), 23-33.
- [65] Ivakhnenko, A. G., Stepashko, V. S., Kostenko, Yu V., Zhitorchuk, Yu V. and Madala H. R., "Self organization of Composite Models for Prediction of Cyclic Processes by using Prediction Balance Criterion," *Soviet Automatic Control*, 12, 2, (1979), 8-21.
- [66] Ivakhnenko, A. G., Svetalskiy, B. K., Sarychev A. P., Denisova A. I., Sirenko, L. A., Nakhshina, E. P. and Ryabov, A. K., "Objective Systems Analysis and Two-Level Long-Range Forecast for the Ecological Systems of Kakhovka and Kremenchug Reservoirs," *Soviet Automatic Control*, 17, 2, (1984), 26-36.
- [67] Ivakhnenko, A. G., Vysotskiy, V. N. and Ivakhnenko, N. A., "Principal versions of the Minimum Bias Criterion for a Model and an Investigation of Their Noise Immunity," *Soviet Automatic Control*, 11, 1, (1978), 27-45.
- [68] Ivakhnenko, M. A. and Timchenko, I. K., "Extrapolation and Prediction of Physical Fields Using Discrete Correlation Models," *Soviet Journal of Automation and Information Sciences*, 18, 4, (1985), 19-26.
- [69] Ivakhnenko, N. A., "Investigation of the Criterion of Clusterization Consistency by Computational Experiments," *Soviet Journal of Automation and Information Sciences*, 21, 4, (1988), 23-26.
- [70] Ivakhnenko, S. A., Lu, I., Semina, L. P. and Ivakhnenko, A. G., "Objective Computer Clusterization Part 2. Use of Information about the Goal Function to Reduce the Amount of Search," *Soviet Journal of Automation and Information Sciences*, 20, 1, (1987), 1-13.
- [71] Ivakhnenko, N. A., Semina, L. P. and Chikhradze, T. A., "A Modified Algorithm for Objective Clustering of Data," *Soviet Journal of Automation and Information Sciences*, 19, 2, (1986), 9-18.
- [72] Kendall, M. G., *Rank Correlation Methods*, (C. Griffin, London, 3rd edition, 1962), 199.
- [73] Kendall, M. G., *Time Series*, (C. Griffin, London, 1973).
- [74] Khomovnenko, M. G. and Kolomiets, N. G., "Self-Organization of a System of Simple Partial Models for Predicting the Wheat Harvest," *Soviet Automatic Control*, 13, 1, (1980), 22-29.
- [75] Khomovnenko, M. G., "Self-Organization of Potentially Efficient Crop Yield Models for an Automatic Irrigation Control System," *Soviet Automatic Control*, 14, 6, (1981), 54-61.
- [76] Klein, L. P., Mueller, I. A. and Ivakhnenko, A. G., "Modeling of the Economics of the USA by Self-organization of the System of Equations," *Soviet Automatic Control*, 13, 1, (1980), 1-8.
- [77] Kohonen, T., *Self Organization and Associative Memory*, (Springer Verlag, 2nd edition, 1988) 312.
- [78] Kondo, J., *Air Pollution*, (Tokyo, Corono Co. 1975).
- [79] Kovalchuk, P. L., "Internal Convergence of GMDH Algorithms," *Soviet Automatic Control*, 16, 2, (1983), 88-91.
- [80] Lebow, W. M., Mehra, R. K., Toldalagi, P. M. and Rice H., "Forecasting Applications of GMDH in Agricultural and Meteorological Time Series," in Farlow S. J. (ed), *Self-organization Methods in Modeling: GMDH Type Algorithms*, (Marcel Dekker, NY, 1984), 121-147.
- [81] Lerner, E. J., "The Great Weather Network," *IEEE Spectrum*, February, (1982), 50-57.
- [82] Lippmann, R. P., "An Introduction to Computing with Neural Nets," *IEEE Acoustics, Speech, and Signal Processing (ASSP) Mag April*, (1987), 4-22.
- [83] Lorenz, E. N., "Atmospheric Predictability as Revealed by Naturally Occurring Analogues," *Journal of the Atmospheric Sciences*, 26, 4, (1969), 636-646.
- [84] Lorenz, E. N., "Predictability and Periodicity. A review and Extension," *Third Conference on Probability and Statistics in Atmospheric Sciences*, June 11-22, (1971), 1-4.
- [85] Maciejowsky, J. M., *Modeling of systems with Small Observation Sets*, (Lecture Notes in Control and Information Sciences, 10, 6, 1978), 242.
- [86] Madala, H. R. and Lantayova, D., "Group Method of Data Handling (GMDH)—A Survey," *Proceedings of the 15th Annual Computer Society of India Convention, Bombay, India*, Part II, (1980), 108-114.
- [87] Madala, H. R., "Self-organization GMDH Computer Aided Design for Modeling of Cyclic Processes," *Proceedings of IFAC Symposium on Computer Aided Design, W Lafayette, IN, USA*, (1982), 611-618.
- [88] Madala, H. R., "System Identification Tutorials," *Technical Report 1982:042T*, University of Lulea, Lulea, Sweden, (1982).
- [89] Madala, H. R., "A New Harmonical Algorithm for Digital Signal Processing," *Proceedings of IEEE Acoustics, Speech, and Signal Processing, San Diego, CA, USA*, (1984), 671-674.

- [90] Madala, H. R., "Layered Inductive Learning Algorithms and Their Computational Aspects," in Bourbakis N. G. (ed.) *Applications of Learning and Planning Methods*, (World Scientific, Singapore, 1991), 49-69.
- [91] Madala, H. R., "Comparison of Inductive Versus Deductive Learning Networks," *Complex Systems*, 5, 2, (1991), 239-258.
- [92] Madala, H. R., "Simulation Studies of Self Organizing Network Learning," *International Journal of Mini and Microcomputers*, 13, 2, (1991), 69-76.
- [93] McCulloch, W. S. and Pitts, W., "A Logical Calculus of the Ideas Immanent in Nervous Activity," *Bull Math Biophys*, 5, (1943), 115-133.
- [94] Mehra, R. K., "GMDH Reviews and Experience," *Proceedings of IEEE Conference on Decision and Control, New Orleans*, (1977), 29-34.
- [95] Minsky, M. and Papert, S., *Perceptrons: an Introduction to Computational Geometry*, (MIT Press, Cambridge 1969).
- [96] Newell, A. and Simon, H. A., "Computer Simulation of Human Thinking," *Science*, **134**, (1961), 2011-2017.
- [97] Newell, A. and Simon, H. A., *Human Problem Solving*, (Englewood Cliffs, New Jersey: Prentice Hall 1972).
- [98] Nguyen, D. H. and Widrow, B., "Neural Networks for Self Learning Control Systems," *IEEE Control Sys Mag April*, (1990), 18-23.
- [99] Patarnello, S. and Carnevali, P., "Learning Capabilities of Boolean Networks," in Aleksander I. (ed.), *Neural Computing Architectures—the Design of Brain-Like Machines*, (The MIT Press, Cambridge, MA., 1989), 117-129.
- [100] Patarnello, S. and Carnevali, P., "Learning Networks of Neurons with Boolean Logic," *Europhysics Letters*, 4, 4, (1987), 503-508.
- [101] Poggio, T. and Girosi, R., "Networks for Approximation and Learning," *Proceedings IEEE*, 78, 9, (1990), 1481-1497.
- [102] Price, W. C. and Chissick, S. S. (eds.), *The Uncertainty Principle and Foundations of Quantum Mechanics: a Fifty Years' Survey*, (John Wiley Sons, New York, 1977), 572.
- [103] Psaltis, D. and Farhat, N., "Optical Information Processing Based on an Associative-Memory Model of Neural Nets with Thresholding and Feedback," *Optics Letters*, **10**, 1985, 98-100.
- [104] Rao, C. R., *Linear Statistical Inference and Its Applications*, (John Wiley, NY 1965).
- [105] Rosenblatt, F., "The Perceptron—a Probabilistic Model for Information Storage and Organization in the Brain," *Psychological Review*, 65, 6, (1958) 386-408.
- [106] Rosenblatt, F., *Principles of Neurodynamics: Perceptrons and the Theory of Brain Mechanisms*, (Spartan Books 1962).
- [107] Rumelhart, D. E., McClelland, J. R. and the PDP Research Group, *Parallel Distributed Processing: Explorations in the Micro Structure of Cognition, (Vol. I)*, Cambridge, Massachusetts: MIT Press 1986).
- [108] Sawaragi, Y, Soeda, T. and Tamura, H., "Statistical Prediction of Air Pollution Levels Using Nonphysical Models," *Automatica*, 15, 4, (1979) 453-460.
- [109] Scott, D. S. and Hutchison, C. E., *Modeling of Economical Systems*, (Univ of Massachusetts, Boston, 1975), 115.
- [110] Shankar, R., *The GMDH*, (Master of Electrical Engineering Thesis, Univ of Delaware, Newark, 1972), 250.
- [111] Shannon, C. E., *The Mathematical Theory of Communication*, (Univ of Illinois press, Urbana, 1949), 117.
- [112] Shelud'ko, O. I., "GMDH Algorithm with Orthogonalized Complete Description for Synthesis of Models by the Results of a Planned Experiment," *Soviet Automatic Control*, 7, 5, (1974), 24-33.
- [113] Simon, H. A., *Models of Discovery*, (D. Reidel Publishing Co., Dordrecht, Holland, 1977).
- [114] Stepashko, V. S., "Optimization and Generalization of Model Sorting Schemes in Algorithms for the Group Method of Data Handling," *Soviet Automatic Control*, 12, 4, (1979), 28-33.
- [115] Stepashko, V. S., "A Combinatorial Algorithm of the Group Method of Data Handling with Optimal Model Scanning Scheme," *Soviet Automatic Control*, 14, 3, (1981), 24-28.
- [116] Stepashko, V. S., "A Finite Selection Procedure for Pruning an Exhaustive Search of Models," *Soviet Automatic Control*, 16, 4, (1983), 88-93.
- [117] Stepashko, V. S., "Noise Immunity of Choice of Model Using the Criterion of Balance of Predictions," *Soviet Automatic Control*, 17, 5, (1984), 27-36.

- [118] Stepashko, V. S., "Selective Properties of the Consistency Criterion of Models," *Soviet Journal of Automation and Information Sciences*, 19, 2, (1986), 38-46.
- [119] Stepashko, V. S. and Kocherga, Yu L., "Classification and Analysis of the Noise Immunity of External Criteria for Model Selection," *Soviet Automatic Control*, 17, 3, (1984), 36-47.
- [120] Stepashko, V. S., "Asymptotic Properties of External Criteria for Model Selection," *Soviet Journal of Automation and Information Sciences*, 21, 6, (1988), 84-92.
- [121] Stepashko, V. S. and Zinchuk, N. A., "Algorithms for Calculating the Locus of Minima for a Criterion of Accuracy of Models," *Soviet Journal of Automation and Information Sciences*, 22, 1, (1989), 85-90.
- [122] Tamura, H. and Kondo, T., "Large spatial Pattern Identification of Air Pollution by Computer Model of Source Receptor and Revised GMDH," *Proceedings IFAC Symposium on Environmental Systems Planning, Design and Control, Kyoto, Japan, (1977),* 167-171.
- [123] Tumanov, N. V., "A GMDH Algorithm with Mutually Orthogonal Partial Descriptions for Synthesis of Polynomial Models of Complex Objects," *Soviet Automatic Control*, 11, 3, (1978), 82-84.
- [124] Tou, J. T. and Gonzalez, R. C., *Pattern Recognition Principles*, (Addison-Wesley Publ. Co., Reading, MA, 1974), 377.
- [125] van Zyl, J. G., "Experiments in Socioeconomic Forecasting Using Ivakhnenko's Approach," *Appl. Math. Modeling*, 2, 3, (1978) 49-56.
- [126] von Neumann, J., *Theory of Self Reproducing Automata*, (University of Illinois Press, Urbana 1966).
- [127] Vysotskiy, V. N., Ivakhnenko, A. G., and Cheberkus, V. I., "Long Term Prediction of Oscillatory Processes by Finding a Harmonic Trend of Optimum Complexity by the Balance-of-Variables Criterion," *Soviet Automatic Control*, 8, 1 (1975), 18-24.
- [128] Vysotskiy, V. N., "Optimum Partitioning of Experimental Data in GMDH Algorithms," *Soviet Automatic Control*, 9, 3 (1976), 62-65.
- [129] Vysotskiy, V. N. and Ihara, J., "Improvement of Noise Immunity of GMDH Selection Criteria by Using Vector Representations and Minimax Forms," *Soviet Automatic Control*, 11, 3 (1978), 1-8.
- [130] Vysotskiy, V. N. and Yunusov, N. I., "Improving the Noise Immunity of a GMDH Algorithm Used for Finding a Harmonic Trend with Nonmultiple Frequencies," *Soviet Automatic Control*, 10, 5 (1977), 57-60.
- [131] Widrow, B. and Hoff, M. E., Jr., "Adaptive Switching Circuits," *Western Electronic Show and Convention Record 4*, Institute of Radio Engineers, (1960), 96-104.
- [132] Widrow, B., Winter, R. G. and Baxter, R. A., "Layered Neural Nets for Pattern Recognition," *IEEE Transactions on Acoustics, Speech, and Signal Processing*, 36, 7, (1988), 1109-1118.
- [133] Wiener, N., *Cybernetics: or Control and Communication in the Animal and the Machine*, (The Technology Press and Wiley, 1948; The MIT Press, 1961, 2nd edition).
- [134] Yurachkovskiy, Yu P., "Convergence of Multilayer Algorithms of the Group Method of Data Handling," *Soviet Automatic Control*, 14, 3 (1981), 29-34.
- [135] Yurachkovskiy, Yu P. and Groshkov, A. N., "Application of the Canonical Form of External Criteria for Investigating their Properties," *Soviet Automatic Control*, 12, 3 (1979), 76-80.
- [136] Yurachkovskiy, Yu P. and Mamedov, M. I., "Internal Convergence of Two GMDH Algorithms," *Soviet Automatic Control*, 18, 1, (1985), 96-100.
- [137] Yurachkovskiy, Yu P., "Use of Karhunen-Loeve Expansion to Construct a Scalar Convolution of a Vector Criterion," *Soviet Journal of Automation and Information Sciences*, 20, 1, (1987), 14-22.
- [138] Yurachkovskiy, Yu P., "Analytical Construction of Optimal Quadratic Discriminating Criteria," *Soviet Journal of Automation and Information Sciences*, 21, 1, (1988), 1-10.