## LIST OF PUBLICATIONS

Gisbert Stoyan

- On some economic additive difference schemes for the solution of manydimensional partial differential equations of parabolic type, Soviet Journal of Numerical Mathematics and Mathematical Physics, 10(3) (1970), 644–653. (in Russian)
- [2] On the stability of additive difference schemes with respect to boundary values, Soviet Journal of Numerical Mathematics and Mathematical Physics, 11(4) (1971), 934–947. (in Russian)
- [3] Zur Genauigkeit eines ökonomischen additiven Differenzenschemas, Math.Nachrichten, 58 (1973), 247–255.
- [4] On the stability of the two-dimensional Janenko scheme with respect to boundary values, in: Theory of Nonlinear Operators: Proceedings of a Summerschool held at Neuchâtel (Hiddensee) in October, 1972, Akademie-Verlag, Berlin, 1974, 241–246.
- [5] Higher order difference schemes for the first and third boundary value problem to (1/r)(d/dr)(rdu/dr) + f(r) = 0, ZAMM-Z. Angew. Math. Me., **55** (1975), 635–645.
- [6] Numerical experiments on the identification of heat conduction coefficients, in: Theory of Nonlinear Operators: Proc. Fifth Internat. Summer School, Central Inst. Math. Mech. Acad. Sci. GDR, Berlin, 1977, Akademie-Verlag, Berlin, 1978, 259–268.
- [7] Some results of numerical experiments on identification of a spatially varying heat conduction coefficient, in: *Summerschool of KAPG 5.2*, Freiberg, 1978.
- [8] On the identification of diffusion coefficients, in: Mathematical models and numerical methods (Papers, Fifth Semester, Stefan Banach Internat. Math. Center, Warsaw, 1975), Banach Center Publ., vol. 3, PWN, Warsaw, 1978, 367–377.

https://doi.org/10.71352/ac.50.049

- [9] On a maximum norm stable, monotone and conservative differenceapproximation of the one-dimensional diffusion-convection equation, in: Simulation der Migrationsprozesse im Boden- und Grundwasser, TU Dresden, 1979, 139–160.
- [10] Identification of a spatially varying coefficient in a parabolic equation. A report on numerical experiments, in: *Inverse and Improperly Posed Problems For Partial Differential Equations*, Akademie-Verlag, Berlin, 1979, 249–258.
- [11] Monotone difference schemes for diffusion-convection problems, ZAMM-Z. Angew. Math. Me., 59(8) (1979), 361–372.
- [12] Modelling and computation of water quality problems in river networks, in: Lecture Notes in Control and Information Science 23, Springer, Berlin, 1980, 482–491. (with H. Baumert, P. Braun, E. Glos and W. Müller)
- [13] Über die Formen-Maxima-Regel von A.H. Müller, Teil 1, in: Freiberger Forschungshefte C357, Leipzig, 1980, 105–110. (with D. Stoyan)
- [14] Uber eine monotone Differenzenapproximation einer partiellen Differentialgleichung, in: Seminar on Numerical Methods for Solving Balance Equations: Papers presented at the Seminar held in Berlin, October 20-25, 1980, Akademie der Wissenschaften der DDR, Berlin, 1980, 83-94.
- [15] On the asymptotic stability of some economic difference schemes, Soviet Journal of Numerical Mathematics and Mathematical Physics, 20(2) (1980), 350–358. (in Russian)
- [16] Ein Fortran-Programm zur Lösung von Randwertproblemen für Systeme aus zwei partiellen Differentialgleichungen mit konstanten Koeffizienten, in: Numerische Behandlung mathematischer Modellgleichungen. Report 09/80, ZIMM der AdW der DDR, Berlin, 1980.
- [17] Zu einigen Arbeiten über monotone Differenzenschemata, Wiss. Beiträge IHS Zwickau, 7(2) (1981), 67–68.
- [18] Mathematical modelling of a class of paleontological evolution processes, Biometrical J., 23(8) (1981), 811–822.
- [19] Towards a general-purpose difference scheme for the linear one-dimensional parabolic equation, in: Nonlinear Analysis: Theory and Applications: Proceedings of the seventh international summer school; Berlin, August 27– September 1, 1979, Akademie-Verlag, Berlin, 1981, 297–314.

- [20] A generalized programme package for the simultanous simulation of transient flow and mattertransport problems in river networks, in: Proceedings of the Conference Numerical Modelling of River, Channel and Overlandflow for Water Resources and Environment Applications, Bratislava, 1981. (with H. Baumert, L. Luckner and W. Müller)
- [21] Parameter identification in transverse mixing models of rivers an inverse problem for a parabolic equation, ZAMM-Z. Angew. Math. Me., 61(12) (1981), 617–627. (with H. Baumert)
- [22] Über die Formen-Maxima-Regel von A.H. Müller, Teil 2, in: Freiberger Forschungshefte C 366, Leipzig, 1982, 97–102. (with D. Stoyan)
- [23] On the monotone difference approximation of one-dimensional partial differential equations, Soviet Diff. Equations 18(7) (1982), 1257–1270. (in Russian)
- [24] On maximum principles for matrices, and on conservation of monotonicity. With applications to discretization methods, ZAMM-Z. Angew. Math. Me., 62(8) (1982), 375–381.
- [25] Identification of parameters in systems of spatially one-dimensional partial differential equations. in: Conference on Math. Models in the Theory of Heat and Mass Transfer, Proceedings, Minsk, 1982, 137–144.
- [26] Modelle von Oberflächengewässern, Spectrum, 4 (1983), 10–11. (with H. Baumert and W. Müller)
- [27] Explicit error estimates for difference schemes solving the stationary constant coefficient diffusion-convection-reaction equation, ZAMM-Z. Angew. Math. Me., 64(3) (1984), 173–191.
- [28] On monotone difference schemes for weakly coupled systems of partial differential equations, in: Computational mathematics (Warsaw, 1980), Banach Center Publ., vol. 13, PWN, Warsaw, 1984, 33–43.
- [29] On a difference scheme for the spatially one-dimensional diffusionconvection equation in several coordinate systems, in: Mathematical models in physics and chemistry and numerical methods of their realization: Proceedings of the Seminar Held in Visegrád, 1982, Teubner Verlag, Leipzig, 1984, 142–150.
- [30] On maximum principles for monotone matrices, *Linear Algebra Appl.*, 78 (1986), 147–161. PDF

- [31] Numerische Simulation von wind- und durchflussinduzierten Strömungen in Flachgewässern auf der Basis des Ekman-Models, Acta Hydrophysica, 30(1) (1986), 51–67. (with H. Baumert and W. Müller)
- [32] A programme system for the computation of free-surface flows and of pollution transport, *Hidrol. Közlöny*, 4/5 (1986), 260–266. (in Hungarian)
- [33] Numerical solution of pipeline system problems by monotone difference approximations, in: *Proceedings ECMI, Oberwolfach 1987*, Teubner Stuttgart, 1988, 195–209.
- [34] Local scale pollution transport model. Part I. A model for air flow over an inhomogeneous surface, *Időjárás*, **91(6)** (1988), 347–360. (in Hungarian, with I. Mersich)
- [35] Operational forecasting of toxic waves in rivers, Acta Hydrochim. Hydrobiol., 18(4) (1990), 449–458. (with H. Baumert)
- [36] On the programming of the multigrid algorithm, in: Proceedings of the Computing Center of the Moscow State University, 1990, 90–107. (in Russian, with A. Kékesi)
- [37] Numerical aspects of an environment pollution problem in rivers, in: Proceedings Conf. Numer. Methods, Sofia 1988, Publ. House Bulg. Acad.Sci., Sofia, 1989, 473–481.
- [38] On the monotone approximation of a two-dimensional equation with nonnegative characteristic form, in: Teubner Series in Mathematics: Numerical treatment of differential equations: Selection of papers presented at the Fifth International Seminar "NUMDIFF-5" held at the Martin-Luther-University Halle-Wittenberg, Stuttgart, Teubner, Leipzig, 1991, 259–266.
- [39] Analysis of a dynamical model of the dry evaporator of refrigerators and heat pumps, Alk. Mat. Lapok, 683 (1990), 279–285. (in Hungarian, with J. Nyers)
- [40] Numerical Solution of Partial Differential Equations, editor, coauthor of chapters: Parabolic Equations; Nonlinear Equations; The Multigrid Method, Tankönyvkiadó, Budapest, 1990. (in Hungarian)
- [41] Colouring the discretization graphs arising in the multigrid method, Computers & Math. with Appls., 22(7) (1991), 55–62. (with R. Stoyan) PDF
- [42] The numerical simulation of the heat pump evaporator with the explicit specification of the phase boundary, Alk. Mat. Lapok, (1991), 143–147. (in Hungarian, with J. Nyers)

- [43] The discrete evaporator model's solution for heat pump by means of Gauss-Newton method, Alk. Mat. Lapok, (1992), 86–91. (in Hungarian, with J. Nyers)
- [44] A dynamical model adequate for controlling the evaporator of a heat pump, Intern. J. Refrigeration, 17(2) (1994), 101–108. (with J. Nyers)
- [45] Erstellung eines Rechenmodells zum thermischen Schichtungsverhalten in Baggerseen, in: *Forschungsbericht*, Hydromod, Hamburg, 1996. (with H. Baumert, B. Hellmann and K. Pfeiffer)
- [46] On a mathematical model of a radiating, viscous, heat conducting fluid: remarks on a paper by J. Förste, ZAMM-Z. Angew. Math. Me., 77(5) (1997), 367–375. (with L. Gergó)
- [47] Introduction to MATLAB: Programming, linear algebra, graphics, Lecture notes, ELTE, Budapest, 1997. (in Hungarian, with L. Gergó and Gy. Molnárka)
- [48] Convergence and nonnegativity of numerical methods for an integrodifferential equation describing batch grinding, *Computers & Math. with Appls.*, 35(12) (1998), 69–81. (with Cs. Mihálykó and Zs. Ulbert) PDF
- [49] Introduction to Matlab: Numerical Methods, Graphics, Statistics, Toolboxes, Lecture notes (ed.), Typotex, Budapest, 1999. (in Hungarian)
- [50] Towards discrete Velte decompositions and narrow bounds for inf-sup constants, Computers & Math. with Appls., 38(7-8) (1999), 243–261. PDF
- [51] Optimal iterative Stokes solvers in the harmonic Velte subspace, in: *Report des SFB F013*, Universität Linz, 1999.
- [52]  $-\triangle = -\text{grad} \operatorname{div} + \operatorname{rot} \operatorname{rot} \operatorname{for} \operatorname{matrices}$ , with application to the finite element solution of the Stokes problem, *East-West J. Numer. Math.*, **8(4)** (2000), 323–340.
- [53] On inhomogeneous boundary conditions in the Förste model of a radiating, viscous, heat conducting fluid, Annales Univ. Sci. Budapest., Sec. Math., (43) (2000), 125–138. PDF
- [54] Iterative Stokes solvers in the harmonic Velte subspace, Computing, 67(1) (2001), 13–33.
- [55] On the existence of a generalized solution to a three-dimensional elliptic equation with radiation boundary condition, Appl. of Mathematics, 46(4) (2001), 241–250. (with L. Simon)

- [56] Algebraic and discrete Velte decompositions, BIT Numerical Mathematics 41(3) (2001), 465–479. (with M. Dobrowolski)
- [57] Generalizations to discrete and analytical Crouzeix–Velte decompositions, Numer. Linear Algebra Appl., 11(5-6) (2004), 565–590. (with G. Strauber and Á. Baran)
- [58] Some numerical aspects of turbulence-closure models, in: Marine Turbulence: Theories, Observations, and Models. Results of the CARTUM Project (eds. H. Baumert, J. Simpson, J. Sündermann), Cambridge Univ. Press, Cambridge, 2005, 197–206. (with H. Burchard and E. Deleersnijder)
- [59] MATLAB (A textbook on MATLAB 4 and 5), editor and coauthor, 1st ed. Typotex, Budapest, 1999, 2nd, corrected and enlarged edition: MATLAB, Typotex, Budapest, 2005. (in Hungarian)
- [60] Crouzeix–Velte decompositions for higher-order finite elements, Computers & Math. with Appls., 51 (2006), 967–986. (with Á. Baran) PDF
- [61] Gauss-Legendre elements: a stable, higher order non-conforming finite element family, *Computing*, **79** (2007), 1–21. (with Á. Baran)
- [62] Numerical Mathematics for Engineers and Programmers, Typotex, Budapest, 2007. (in Hungarian)
- [63] The Stokes problem and the Crouzeix–Velte resolution, Alk. Mat. Lapok, 26 (2009), 179–191. (in Hungarian) PDF
- [64] Wide angle absorbing boundary conditions by minimizations, Mitt. Math. Gesellschaft Hamburg, 29 (2010), 143–151. (with W. Hofmann)
- [65] Obituary on Aleksandr Andrejevich Samarskij (1919–2008), Annales Univ. Sci. Budapest., Sec. Comp., 32 (2010), 3–11. PDF
- [66] On a numerical model for the pianoforte, Annales Univ. Sci. Budapest., Sec. Comp., 39 (2013), 415–438. PDF
- [67] Numerical Methods I, 1st ed. Typotex, Budapest, 1993, 2nd, corr. ed. 2002, 3rd corr. and extended ed. 2012, 452 p. (in Hungarian, with programs by G. Takó) PDF manuscript
- [68] Numerical Methods II, 1st ed. Typotex, Budapest, 1995, 2nd, corr. and reworked ed. 2012, 411 p. (in Hungarian, with programs by G. Takó) PDF manuscript
- [69] Numerical Methods III, 1st ed. Typotex, Budapest, 1996, 2nd ed. 2010, 3rd extended ed. 2011, 672 p. (in Hungarian, with programs by G. Takó) PDF manuscript

- [70] MATLAB 2013-2014: Introduction to the use, linear algebra, graphics, optimization (in Hungarian), Lecture notes, ELTE, Budapest, 2014 (rev. 2016), 154 p. PDF
- [71] Elementary Numerical Mathematics for Programmers and Engineers, Springer Cham, Germany, 2016, 220 p. (with Á. Baran)