

# References

- [1] Ahlberg J.H., Nilson E.N. and Walsh J.L. The theory of splines and their applications. Academic Press, New York, London. 1967.
- [2] Alexandrov A.Ya. and Solov'ev Yu.I. Three - dimensional problems of elasticity theory [in Russian]. Nauka, Moscow. 1978.
- [3] Arnol'd V.I., Varchenko A.N. and Gusein-Zade S.M. Singularities of differentiable maps. Birkhauser, Basel. 1985.
- [4] Arushanyan O.B. and Zaletkin S.F. Numerical methods for ordinary differential equations implemented in FORTRAN. [in Russian]. Moscow, Mosk. Gos. Univ. 1990.
- [5] Baker C. T. H. Methods for integro-differential equations // Numerical solution of integral equations. Oxford: Clarendon Press, 1974. P. 189-206.
- [6] Baker C. T. H. The numerical treatment of integral equations. Oxford: Clarendon Press, 1976.
- [7] Bakhvalov N.S. Numerical methods. [in Russian]. V. 1. Nauka, Moscow. 1973.
- [8] Bellman R.E. and Kalaba R.E. Quasilinearization and nonlinear boundary - value problems. Elsevier, N.-Y., 1965.
- [9] Belotserkovskii S.M., Nisht M.I., Ponomarev A.T. and Rusev O.V. Computer investigation of parachutes and hang-gliders. [in Russian]. Moscow, Mashinostroenie, 1987.
- [10] Bergan P.G., Horrigmoe G., Krakeland B., Söreide T.H. Solution techniques for nonlinear finite element problems // Int. J. Num. Meth. Eng. 1978. V. 12. P. 1677 - 1696.
- [11] BoyarinsteV Yu.E., Danilov V.A., Loginov A.A. and Chistyakov V.F. Numerical methods for solving singular systems. [in Russian]. Novosibirsk, Nauka. 1989.
- [12] Brauer A. Limits for the characteristic roots of matrix // Duke Math. J. 1946. N 13. P. 387-395.

- [13] Brenan K. E., Campbell S. L., Petzold L. R. Numerical solution of initial-value problems in differential-algebraic equations. N. -Y., Amsterdam, L.: North-Holland, 1989.
- [14] Bruder J., Strehmel K., Weiner R. Partitioned adaptive Runge-Kutta methods for the solution of nonstiff and stiff systems // Numer. Math. 1988. V. 52. P. 621-638.
- [15] Byrne G. D., Hindmarsh A. C. A polyalgorithm for the numerical solution of ordinary differential equations // ACM. Trans on Math. Software. 1975. V. 1. P. 71-96.
- [16] Byrne G. D., Hindmarsh A. C. Stiff ODE solvers: A review of current and coming attraction // J. of Computational Physics. 1987. V. 70. N 1. P. 1-62.
- [17] Campbell S. L. Singular system of differential equations. San- Francisco, L., Melbourn: Pitman Advanced Publ. Program., 1980.
- [18] Campbell S. L. Singular system of differential equations. II. San- Francisco-L. -Melbourn: Pitman Advanced Publ. Program., 1982.
- [19] Courant R., Fridrichs K., Lewy H. Ueber die partiellen Differenzen-gleichungen der mathematischen Physik // Math. Ann. 1928. V. 100. P. 32-74.
- [20] Cryer C. W. Numerical methods for functional differential equations // Delay and functional differential equations and their applications. Proc. of the Park City Conf. N. -Y.: Acad. Press, 1972. P. 17-102.
- [21] Curtis A. R. The FACSIMILE numerical integrator for stiff initial value problems // AERE-R. 9352. Oxfordshire:AERE Harwell, 1978.
- [22] Curtiss C. F., Hirschfelder J. O. Integration of stiff equations // Proc. of the National Academy of Sciences of US. 1952. V. 38. P. 235-243.
- [23] Dahlquist G. A special stability problem for linear multistep methods // BIT. 1963. N 3. P. 27-43.
- [24] Davidenko D.F. On a new method for the numerical solution of systems of nonlinear equations // Dokladi Akademii Nauk of Russia, V. 88. 4. P. 601-602.
- [25] Davidenko D.F. On the approximate solution of systems nonlinear equations // Ukr. Mat. Zh. 1953. V. 5. 2. P. 196-206.
- [26] Davidenko D.F. The application of the method of variation of the parameters to the construction of iterative formulas of increased accuracy for the numerical solution of nonlinear integral equations // Dokladi Akademii Nauk of Russia, V. 162. 3. P. 499 - 502.
- [27] Dorodnitsin A.A. asymptotic solution of Van-der-Pole equation // Prikl. Mat. Mekh. V.11. 3. P. 313-322. 1947.
- [28] Doolan E.P., Miller J.J.H. and Schilders W.H.A. Uniform numerical methods for problems with initial and boundary layers. Boole Press. Dublin. 1980.

- [29] El'sgol'ts L.E. On the approximate integration of differential equations with retarded argument // Prikl. Mat. Mekh. V.15. 4. P. 771-772. 1951.
- [30] El'sgol'ts L.E. The approximate methods of integration of differential - difference equations // Uspekhi Mat. Nauk. 1953. V. 8. 4. P. 81 - 93.
- [31] El'sgol'ts L.E. and Norkin S.B. An introduction to the theory of differential equations with retarded argument. [in Russian]. Nauka, Moscow. 1971.
- [32] Faux L.D. and Pratt M.J. Computational geometry for design and manufacture. Ellis Horwood, Chichester. 1979.
- [33] Fedorenko R.P. To regular stiff systems of ordinary differential equations // Dokladi Akademii Nauk of Russia. 1983. V. 273. 6. P. 1318-1322.
- [34] Fedorenko R. P. Stiff systems of ordinary differential equations // Numerical processes and systems. Vol. 8. 1991. P. 328-380.
- [35] Fedorenko R. P. Stiff systems of ordinary differential equations // Numerical methods and applications. Boca Raton, Ann Arbor, L., Tokyo: CRC Press. 1994. P. 117-154.
- [36] Feldstein A. Discretization methods for retarded ordinary differential equations // Ph. D. Thesis. Los Angeles: Univ. of California, 1964.
- [37] Feldstein A., Sopka J. R. Numerical methods for nonlinear Volterra integro differential equations // SIAM J. Numer. Anal. 1974. V. 11. P. 826-846.
- [38] Ficken F. The continuation method for nonlinear functional equations // Comm. Pure Appl. Math. 1951. V. 4. 4. P. 435 - 456.
- [39] Field J. R., Noyes R. M. Oscillations in chemical systems. IV, Limit cycle behavior in a model of a real chemical reaction // J. Chem. Physics. 1974. V. 60. P. 1877-1884.
- [40] Fikhtengol'ts G.M. A course of differential and integral calculus. Vol. 1. [in Russian]. Nauka, Moscow. 1969.
- [41] Gavurin M.K. Nonlinear functional equations and continuous analogs of iterative methods // Izv.Vyssh. Uchebn. Zaved., Mat., N 5. P.18-31. 1958.
- [42] Gear C. W. Numerical initial value problems in ordinary differential equations. N. - Y. :Prentice Hall, Englewood Cliffs, 1971.
- [43] Gear C. W. The simultaneous numerical solution of differential- algebraic equations // IEEE Trans. Circuit Theory. CT.-18. 1971. P. 89-95.
- [44] Gerasimov B.P. and Kul'chitskaya I.A. STIFSP package of programs for integrating differential - algebraic systems of large dimension. Preprint Inst. Appl. Math., Ussr Acad. Sci., Moscow. 1984. 103.
- [45] Gershgorin S.A. Uber die Abgrenzung der Eigenwerte einer Matrix. Izv. Akademii Nauk SSSR, Ser. fiz.-mat., P. 749-754. 1931.

- [46] Godunov S.K. Numerical solution of boundary value problems for systems of linear ordinary differential equations // *Uspekhi Mat. Nauk.* 1962. V. 16. 6. P. 171 - 174.
- [47] Griepentrog E., Marz R. Differential-algebraic equations and their numerical treatment. Leipzig: Teubner, 1986.
- [48] Grigolyuk E.I., Shalashilin V.I. Problems of nonlinear deformation. Kluwer Academic Publishers, Dordrecht / Boston / London, 1991.
- [49] Grigorenko Ya. M. and Mukoed A.P. Computerized solution of nonlinear problems in the theory of shells. [in Russian]. Vishcha shkola, Kiev. 1983.
- [50] Gulyaev V.I., Bazhenov V.A. and Gotsulyak E.A. Stability of nonlinear mechanical systems. [in Russian]. Vishcha shkola, L'vov. 1982.
- [51] Hairer E., Norsett S.P., Wanner G. Solving ordinary differential equations. I. Springer-Verlag, Berlin, 1987.
- [52] Hairer E., Lubich C., Roche M. The numerical solution of differential-algebraic systems by Runge-Kutta methods. Berlin etc.: Springer, 1989.
- [53] Hairer E., Wanner G. Solving ordinary differential equations 2. Stiff and differential-algebraic problems. Berlin, e. a. :Springer- Verlag, 1991.
- [54] Hamming R.W. Numerical methods for scientists and engineers. Graw-Hill Book Com. Y.-N. 1962.
- [55] Henrici P. Discrete variable methods in ordinary differential equations. N. -Y. :Wiley, 1962.
- [56] Hindmarsh A. C. LSODE and LSODI, two new initial value ordinary differential equations solvers // *ACM. SIGNUM. Newsletter.* 1980. V. 15. N 4. P. 10-11.
- [57] Hindmarsh A. C. ODEPACK // A systematized collection of ODE solvers in numerical methods for scientific computation. N. - Y. : North- Holland. 1983. P. 55-64.
- [58] Joss G. and Joseph D. Elementary stability and bifurcation theory. Springer - Verlag, New York etc. 1980.
- [59] Karmishin A.V., Lyaskovets V.A., Myachenkov V.I. and Frolov A.N. Statics and dynamics of thin-walled shell structures. [in Russian]. Mashinostroenie, Moscow. 1975.
- [60] Kisner W. A numerical method for finding solutions of nonlinear equations // *SIAM J. Appl. Math.* 1964. V. 12. P. 424 - 428.
- [61] Kleinmichel H. Stetige Analoge und Iterations verfahren für nichtlinear Gleichungen in Banachräumen // *Math. Nach.* 1968. V. 37. P. 313 - 314.
- [62] Krasnosel'skii M.A., Vainikko G.M., Zabreiko P.P., Rutitskii Ya.B. and Stenzenko V.Ya. Approximate solution of operator equations. [in Russian]. Nauka, Moscow. 1969.

- [63] Kulikov G.Yu. Numerical solution of an autonomous Cauchy problem with an algebraic constraint on phase variables // *Zh. Vychisl. Mat. Mat. Fiz.* V. 33. 4. P. 522-540. 1993.
- [64] Kuznetsov E.B. and Shalashilin V.I. Cauchy's problem as a problem of the continuation of a solution with respect to a parameter // *Zh. Vychisl. Mat. Mat. Fiz.* V. 33. 12. P. 1792-1805. 1993.
- [65] Kuznetsov E.B. and Shalashilin V.I. The Cauchy problem for deformable systems as a parametric solution continuation problem // *Izv RAN. Mekh Tverd Tela.* V. 28. 6. P. 145-152. 1993.
- [66] Kuznetsov E.B. and Shalashilin V.I. Cauchy's problem as a problem of continuation with respect to the best parameter // *Diff. Urav.* V.30. 6. P. 964-971. 1994.
- [67] Kuznetsov E.B. and Shalashilin V.I. The Cauchy problem for mechanical systems with a finite number of degrees of freedom as a problem of continuation on the best parameter // *Prikl. Mat. Mekh.* V.58. 6. P. 14-21. 1994.
- [68] Kuznetsov E.B. and Shalashilin V.I. Pellet charge motion along a gun barrel // *Izv RAN. Mekh Tverd Tela.* V. 29. 1. P. 189-199. 1994
- [69] Kuznetsov E.B. and Shalashilin V.I. A parametric approximation // *Zh. Vychisl. Mat. Mat. Fiz.* V. 34. 12. P. 1757-1769. 1994.
- [70] Lahaye M. E. Une metode de resolution d'une categorie d'equations transcendentes // *Compter Rendus hebdomadaires des seances de L'Academie des sciences.* 1934. V. 198. 21. P. 1840-1842.
- [71] Lahaye M. E. Solution of system of transcendental equations // *Acad. Roy. Belg. Bull. Cl. Sci.* 1948. V. 5. P. 805-822.
- [72] Lambert J. D. Computational methods in ordinary differential equations. N.-Y. : Wiley, 1973.
- [73] Lebedev A.A. and Chernobrovkin L.S. Dynamics of flight. [in Russian]. Moscow, Mashinostroenie, 1973.
- [74] Lebedev V. I. How to solve stiff systems of differential equations by explicit methods // *Numerical processes and systems.* Vol. 8. 1991. P. 237-291.
- [75] Lebedev V. I. How to solve stiff systems of differential equations by explicit methods // *Numerical methods and applications.* Boca Raton, Ann Arbor, L., Tokyo: CRC Press. 1994. P. 45-80.
- [76] Lur'c A.I. Analytical Mechanics. [in Russian]. Moscow, Fizmatgiz. 1961.
- [77] Lyapunov A.M. General problem of motion stability. [in Russian]. Kharkov, 1892.
- [78] Lyttleton R.A. The stability of rotating liquid masses. Cambridge: University Press. 1953.

- [79] Marchuk G.I. and Lebedev V.I. Numerical methods in neutrons transfer theory. [in Russian]. Moscow, Atomizdat, 1981.
- [80] Marcus M., Minc H. A survey of matrix theory and matrix inequalities. Allyn and Bacon, Inc, Boston, 1964.
- [81] Modern numerical methods for ordinary differential equations. Edited by G. Hall and J.M. Watt. Oxford. Clarendon Press. 1976.
- [82] Morozov N.F. Nonlinear theory of thin plates // Dokladi Akademii Nauk of Russia. 1957. V. 114. 5. P. 968 – 971.
- [83] Morozov N.F. Nonlinear problems in theory of thin plates // Vestn. Leningr. Univ. 1958. 19. P. 100 – 124.
- [84] Morozov N.F. Uniqueness of the symmetric solution of a large deflection problem for a symmetrically loaded circular plate // Dokladi Akademii Nauk of Russia. 1958. V. 123. 3. P. 417 – 419.
- [85] Morozov N.F. On the existence of a nonsymmetric solution in a large deflection problem for a circular plate under a symmetric load // Izv. Vyssh. Uchebn. Zaved., Mat. 1961. 2. P. 126 – 129.
- [86] Morozov N.F. Nonlinear problems in the theory of thin plates with p axes of symmetry // Tr. Leningr. Tekhol. Inst. Tsellyul.-Bumazh. Prom., 1962. 11. P. 206 – 208.
- [87] Nazarenko N.A. Approximation of plane curves by parametric Hermitian splines // Ukr. Mat. Zh. V. 31. 2. P. 201-205. 1979.
- [88] Oran E.S. and Boris J.P. Numerical simulation of reactive flow. Elsevier, New York etc. 1987.
- [89] Ortega J.M. and Poole W.G. An introduction to numerical methods for differential equations. Pitman Publishing inc., 1981.
- [90] Pavlov N.N. and Skorospelov V.A. Modelling curves and surfaces in a system for automating geometric calculations // Spline Functions in Engineering Geometry. Computational Systems. 86. P. 44-59. Inst. Mat. SO Akad. Nauk SSSR. Novosibirsk. 1981.
- [91] Petrov V.V. Finite deflection analysis of shallow shells // Nauch. Dokl. Vyssh. Shkoly., Stroit. 1959. 1. P. 27-35.
- [92] Petrovskii I.G. Lectures on theory of ordinary differential equations. [in Russian]. Nauka, Moscow. 1970.
- [93] Petzold L. R. A description of DASSL: A differential-algebraic system solver // Scientific Computing. Amsterdam: North-Holland, 1983. P. 65.
- [94] Poincare H. Sur l'équilibre d'une masse fluide animal d'un mouvement de rotation// Acta mathem. 1885. V. 7. P. 259 - 380.
- [95] Rakitskii Yu.V., Ustinov S.M. and Chernorutskii I.G. Numerical methods for solving stiff systems. [in Russian]. Nauka, Moscow. 1979.

- [96] Rentrop P. Partitioned Runge-Kutta methods with stiffness detection and stepsize control // *Numer. Math.* 1985. V. 47. P. 545-564.
- [97] Ridel V.V. and Gulin B.V. Dynamics of soft shells. [in Russian]. Nauka, Moscow. 1990.
- [98] Riks E. The application of Newton's method to the problem of elastic stability // *Trans. ASME. J. Appl. Mech.* 1972. V. E39. 4. P. 1060-1065.
- [99] Riks E. A unified method for the computation of critical equilibrium states of nonlinear elastic systems // *Acta Techn. Acad. Sci. Hung.* 1978. V. 87. 1-2. P. 121-141.
- [100] Riks E. An incremental approach to the solution of snapping and buckling problems // *Int. J. Solids Struct.* 1979. V. 15. 7. P. 529-551.
- [101] Riks E. Some computational aspect of the stability analysis of nonlinear structures // *Comput. Math. Appl. Mech. Engrg.* 1984. V. 47. 3. P. 219-259.
- [102] Samarskii A.A. and Gulin A.V. Numerical methods. [in Russian]. Nauka, Moscow. 1989.
- [103] Schmidt E. Zur Theorie linearen und nichtlinearen Integralgleichungen. Teil 3. Über die Auflösungen der nicht-linear Integralgluchungen und die Verveigung ihrer Lösung// *Math. Ann.* 1908. S. 370 - 399.
- [104] Sendov B. Hausdorff approximations. Bulgarian Academy of Sciences, Sofia. 1979.
- [105] Shalashilin V.I. The continuation method and its application to a large deflection problem for a nonshallow circular arch // *Izv. Akad. Nauk SSSR. Mekh. Tverd. Tela.* 1979. 4. P. 178 - 184.
- [106] Shalashilin V.I. and Kuznetsov E.B. Cauchy problem for nonlinear deformation of systems as a parametric continuation problem // *Dokladi Akademii Nauk of Russia*, v.329, N 4, P. 426-428. 1993.
- [107] Shalashilin V.I. and Kuznetsov E.B. To formulation of Cauchy problem for the systems with concentrated parameters // *Problems of machine - building and reliability of machines.* 1994. 3. P. 120-121.
- [108] Shalashilin V.I. and Kuznetsov E.B. The best parameter in the continuation of a solution // *Dokladi Akademii Nauk of Russia*, V.334, N 5, P. 566-568. 1994.
- [109] Shampine L. F., Gear C. W. A user's view of solving stiff ordinary differential equations // *SIAM Review.* 1979. V. 21. N 1. P. 1-17.
- [110] Sherman A. H., Hindmarsh A. C. GEAR: A package for the solution of sparse, stiff ordinary differential equations // *Electrical Power Problems. The mathematical challenger.* SIAM. Philadelphia. 1980. P. 190.
- [111] Shimanskii V.E. Computerized numerical solution of boundary value problems. [in Russian]. Part. 2. Naukova Dumka, Kiev. 1966.

- [112] Sincovec R. F., Erismann A. M., Yip E. L., Epton M. A. Analysis of descriptor system using numerical algorithms // IEEE Trans. on Auto Control. 1980. V. 26. P. 139-147.
- [113] Thompson J.M.T., Hunt G.W. A general theory of elastic stability. London: G. Wiley interscience publ. 1973.
- [114] Thompson J.M.T., Hunt G.W. Towards a unified bifurcation theory // J. Appl. Math. and Physics. 1975. V. 26. P. 581 - 603.
- [115] Tikhonov A.N. and Samarskii A.A. Equations of mathematical physics. [in Russian]. Nauka, Moscow. 1972.
- [116] Trenogin V.A. Lusternic's theorem and the best parametrization of solutions of nonlinear equations // Functional analysis and applications. 1998. V. 38. 1 P. 87-90.
- [117] Vainberg M.M. and Trenogin V.A. Theory branching of the solutions of nonlinear equations. [in Russian]. Nauka, Moscow. 1969.
- [118] Vakarchuk S.B. Approximation of curves given in parametric form by means of spline curves // Ukr. Mat. Zh. V. 36. 2. P. 352-355. 1983.
- [119] Vasil'eva A.B. and Butuzov V.F. Asymptotic expansions of solutions of singular - perturbed equations [in Russian]. Nauka, Moscow. 1973.
- [120] Voevodin V.V. and Arushanyan O.B. Numerical analysis in FORTRAN. [in Russian]. Moscow, Mosk. Gos. Univ. 1979.
- [121] Vorovich I.I. and Zivalova V.F. Solution of nonlinear boundary value elasticity problems by passing to a Cauchy problem // Prikl. Mat. Mekh. 1965. V.29. 5. P. 894-901.
- [122] Weiner R., Strehmel K. A type insensitive code for delay differential equations basing on adaptive and explicit Runge- Kutta interpolation methods // Computing. 1988. V. 40. P. 255-265.
- [123] Widlund O. B. A note on unconditionally stable linear multistep methods // BIT. 1967. V. 7. P. 65-70.
- [124] Willard L. Numerical methods for stiff equations. N. -Y. :Acad. Press, 1981.
- [125] Zav'yalov Yu.S., Kvasov B.I. and Miroshnichenko V.L. Spline - functions methods. [in Russian]. Nauka, Moscow. 1980.