

Publications by

P.J. van der Houwen

- 1966 1 *On the stability of a difference scheme for the North Sea problem,*
P.J. van der Houwen, Report TW 100/66, Mathematisch Centrum, Amsterdam (1966).
- 2 *Some analytical aspects of the Tricomi problem,*
P.J. van der Houwen, Report TW 102/66, Mathematisch Centrum, Amsterdam (1966).
- 1967 3 *Numerical treatment of the North Sea problem without friction,*
P.J. van der Houwen, Report TN 47/67, Mathematisch Centrum, Amsterdam (1967).
- 4 *On the acceleration of Richardson's method, Part 1: Theoretical part,*
P.J. van der Houwen, Report TW 104/67, Mathematisch Centrum, Amsterdam (1967).
- 5 *On the acceleration of Richardson's method, Part 2: Numerical aspects,*
P.J. van der Houwen, Report TW 107/67, Mathematisch Centrum, Amsterdam (1967).
- 6 *On the acceleration of Richardson's method, Part 3: Applications,*
P.J. van der Houwen, Report TW 108/67, Mathematisch Centrum, Amsterdam (1967).
- 7 1. *Differentieschema's voor gewone differentiaalvergelijkingen,*
2. *Differentieschema's voor partiële differentiaalvergelijkingen,*
P.J. van der Houwen, in: *Colloquium stabiliteit van differentieschema's*, G.J.R. Förch,
P.J. van der Houwen, R.P. van de Riet (eds.), MC Syllabus 2.1, Mathematisch Centrum, Amsterdam (1967) 18-54.
- 1968 8 *On the acceleration of Richardson's method, Part 4: A non-symmetrical case,*
T.M.T. Coolen, P.J. van der Houwen, Report TW 109/68, Mathematisch Centrum, Amsterdam (1968).
- 9 1. *Het Noordzee-probleem, 2. Elliptische randwaardeproblemen,*
P.J. van der Houwen, in: *Colloquium stabiliteit van differentieschema's*, L. Dekker,
T.J. Dekker, P.J. van der Houwen, M.N. Spijker (eds.), MC Syllabus 2.2, Mathematisch Centrum, Amsterdam (1968) 50-87.
- 10 *Finite difference methods for solving partial differential equations,*
P.J. van der Houwen, Thesis, Univ. of Amsterdam,
also: MC Tract 20, Mathematisch Centrum, Amsterdam (1968).
- 1969 11 *A method for solving elliptic difference equation,*
P.J. van der Houwen, Report MR 104/69, Mathematisch Centrum, Amsterdam (1969).
- 12 *Difference schemes with complex time steps,*
P.J. van der Houwen, Report MR 105/69, Mathematisch Centrum, Amsterdam (1969).

- 13 *Voorlopige handleiding bij het MC-enqueteprogramma, Deel 1: Gebruiksaanwijzing*, G.J.R. Förch, P.J. van der Houwen, Report MR 106/69, Mathematisch Centrum, Amsterdam (1969).
- 1970 14 *Numerical solution of the diffusion equation by one-step methods*, P.J. van der Houwen, C.G. van der Laan, Report TN 57/70, Mathematisch Centrum, Amsterdam (1970).
- 15 *A diffusion problem with a discontinuous initial condition*, P.J. van der Houwen, C. de Vreugd, Report TN 58/70, Mathematisch Centrum, Amsterdam (1970).
- 16 *On the acceleration of Richardson's method, Part 1: Theoretical part; 2nd ed.*, P.J. van der Houwen, Report TW 104/70, Mathematisch Centrum, Amsterdam (1970).
- 17 *One-step methods for linear initial value problems, Part 1: Polynomial methods*, P.J. van der Houwen, Report TW 119/70, Mathematisch Centrum, Amsterdam (1970).
- 18 *One-step methods for linear initial value problems, Part 2: Applications to stiff equations*, P.J. van der Houwen, Report TW 122/70, Mathematisch Centrum, Amsterdam (1970).
- 19 *Numerieke oplossingsmethoden*, P.J. van der Houwen, in: *Colloquium Elliptische Differentiaalvergelijkingen, Deel 2*, W.P. van den Brink, T.M.T. Coolen, B. Dijkhuis, P.P.N. de Groen, P.J. van der Houwen, E.M. de Jager, N.M. Temme, R.J. de Vogelaere (eds.), MC Syllabus 9.2, Mathematisch Centrum, Amsterdam (1970) 1-33.
- 1971 20 *A note on two-step Runge-Kutta methods*, P.J. van der Houwen, Report TN 61/71, Mathematisch Centrum, Amsterdam (1971).
- 21 *Numerical solution of a minimax problem*, P.J. van der Houwen, J. Kok, Report TW 123/71, Mathematisch Centrum, Amsterdam (1971).
- 22 *Stabilized Runge-Kutta methods with limited storage requirements*, P.J. van der Houwen, Report TW 124/71, Mathematisch Centrum, Amsterdam (1971).
- 23 *On the numerical solution of the Tricomi problem*, P.J. van der Houwen, T.J. Zwaagstra-Eerbeek, Report TW 129/71, Mathematisch Centrum, Amsterdam (1971).
- 24 *One-step methods for linear initial value problems, Part 3: Numerical results*, P.J. van der Houwen, P.A. Beentjes, K. Dekker, E. Slagt, Report TW 130/71, Mathematisch Centrum, Amsterdam (1971).
- 25 *One-step methods for linear initial value problems*, P.J. van der Houwen, Z. angew. Math. Mech. 51 (1971) T58-T59.
- 26 *A survey of stabilized Runge-Kutta formulae*, P.J. van der Houwen, MC Tract 37, Mathematisch Centrum, Amsterdam (1971) 5.1-5.20.

- 1972 27 *Explicit and semi-implicit Runge-Kutta formulas for the integration of stiff equations*,
 P.J. van der Houwen, Report TW 132/72, Mathematisch Centrum, Amsterdam (1972).
- 28 *Explicit Runge-Kutta formulas with increased stability boundaries*,
 P.J. van der Houwen, Numer. Math. 20 (1972) 149-164.
- 29 *A note on two-step integration formulas of third order accuracy with prescribed stability function*,
 P.J. van der Houwen, Report NR 26/72, Mathematisch Centrum, Amsterdam (1972).
- 30 *Eenstapsmethoden*,
 P.J. van der Houwen, in: *Colloquium Stijve Differentiaalvergelijkingen*, T.J. Dekker,
 P.W. Hemker, P.J. van der Houwen (eds.), MC Syllabus 15.1, Mathematisch Centrum,
 Amsterdam (1972) 34-87.
- 1973 31 *Exponential fitted Runge-Kutta formulas of fourth order*,
 P.J. van der Houwen, H. Fiolet, Report NW 1/73, Mathematisch Centrum, Amsterdam (1973).
- 32 *One-step methods with adaptive stability functions for the integration of differential equations*,
 P.J. van der Houwen, in: *Numerical treatment of functional equations, with emphasis on approximation theory*, Lecture Notes in Math. 333 (1973) 164-174.
- 1974 33 *Numerieke integratie van differentiaalvergelijkingen, Deel 1: Eenstapsmethoden*,
 P.J. van der Houwen, MC Syllabus 24.1, Mathematisch Centrum, Amsterdam (1974).
- 34 *Generalized linear multistep methods, Part 1: Development of algorithms with zero-parasitic roots*,
 P.J. van der Houwen, J.G. Verwer, Report NW 10/74, Mathematisch Centrum, Amsterdam (1974).
- 1975 35 *Two-level difference schemes with varying mesh sizes for the shallow water equations*,
 P.J. van der Houwen, Report NW 22/75, Mathematisch Centrum, Amsterdam (1975).
- 36 *Stabilized Runge-Kutta methods for second-order differential equations without first derivatives*,
 P.J. van der Houwen, Report NW 26/75, Mathematisch Centrum, Amsterdam (1975).
- 1976 37 *ALGOL 60 procedures voor begin- en randwaardeproblemen*,
 T.M.T. Coolen, P.W. Hemker, P.J. van der Houwen, E. Slagt, MC Syllabus 20, Mathematisch Centrum, Amsterdam (1976).
- 38 *Colloquium Discretiseringsmethoden*,
 M. Bakker, P.W. Hemker, P.J. van der Houwen, S.J. Polak, M. van Veldhuizen, MC Syllabus 27, Mathematisch Centrum, Amsterdam (1976).
- 39 *Begin-randwaardeproblemen voor partiële differentiaalvergelijkingen*,
 P.J. van der Houwen, in: *Colloquium Numerieke programmatuur*, J.C.P. Bus (ed.),
 MC Syllabus 29.1a, Mathematisch Centrum, Amsterdam (1976) 81-99.

- 40 *Elliptische randwaardeproblemen voor partiële differentiaalvergelijkingen*,
 M. Bakker, P.J. van der Houwen, in: *Colloquium Numerieke programmatuur*, J.C.P. Bus (ed.), MC Syllabus 29.1a, Mathematisch Centrum, Amsterdam (1976) 143-159.
- 41 *De numericus en de computer*,
 Rede uitgesproken bij de aanvaarding van het ambt van bijzonder hoogleraar in de numerieke wiskunde en informatica aan de Universiteit van Amsterdam vanwege de Stichting voor Hoger Onderwijs in de Toegepaste Wiskunde, 25 oktober 1976,
 P.J. van der Houwen, Oratie UvA, Amsterdam; Van Gorcum, Assen (1976).
- 1977
- 42 *Linear multistep methods for a class of hyperbolic differential equations*,
 P.J. van der Houwen, Report NW 36/77, Mathematisch Centrum, Amsterdam (1977).
 - 43 *Runge-Kutta type methods for the integration of hyperbolic differential equations*,
 P.J. van der Houwen, Report NW 40/77, Mathematisch Centrum, Amsterdam (1977).
 - 44 *On the numerical solution of Volterra integral equations of the second kind, Part 1: Stability*,
 P.J. van der Houwen, Report NW 42/77, Mathematisch Centrum, Amsterdam (1977).
 - 45 *Comparing stabilized Runge-Kutta methods for semi-discretized parabolic and hyperbolic equations*,
 K. Dekker, P.J. van der Houwen, J.G. Verwer, P.H.M. Wolkenfels, Report NW 45/77, Mathematisch Centrum, Amsterdam (1977).
 - 46 *A general formulation of linear splitting methods for ordinary and partial differential equations*,
 P.J. van der Houwen, J.G. Verwer, Report NW 47/77, Mathematisch Centrum, Amsterdam (1977).
 - 47 *Backward differentiation formulas for Volterra integral equations of the second kind, Part 1: Convergence and stability*,
 P.J. van der Houwen, H.J.J. te Riele, Report NW 48/77, Mathematisch Centrum, Amsterdam (1977).
 - 48 *Gestabiliseerde Runge-Kutta methoden voor de tijdsintegratie van hyperbolische differentiaalvergelijkingen*,
 P.J. van de Houwen, in: *Colloquium Numerieke programmatuur, Deel 2*, H.J.J. te Riele (ed.), MC Syllabus 29.2, Mathematisch Centrum, Amsterdam (1977) 73-85.
 - 49 *Volterra-integraalvergelijkingen van de tweede soort*,
 P.J. van de Houwen, in: *Colloquium Numerieke programmatuur, Deel 2*, H.J.J. te Riele (ed.), MC Syllabus 29.2, Mathematisch Centrum, Amsterdam (1977) 123-144.
 - 50 *Berekening van waterstanden in zeeën en rivieren*,
 P.J. van der Houwen, MC Syllabus 33, Mathematisch Centrum, Amsterdam (1977).
 - 51 *A comparison of Nyström-Runge-Kutta and linear multistep methods for second order differential equations with slowly and rapidly oscillating solutions*,
 P.J. van der Houwen, NN 11/77, Mathematisch Centrum, Amsterdam (1977).
 - 52 *Construction of Integration Formulas for Initial Value Problems*,
 P.J. van der Houwen, North-Holland Series in Applied Mathematics and Mechanics, Vol. 19, North-Holland (1977).

- 53 *Non-linear splitting methods for semi-discretized parabolic differential equations*,
 P.J. van der Houwen, J.G. Verwer, Report NW 51/77, Mathematisch Centrum, Amsterdam (1977).
- 54 *Numerical experiments with Runge-Kutta type methods for Volterra integral equations of the second kind*,
 P.J. van der Houwen, J.N. Schilder, Report NN 12/77, Mathematisch Centrum, Amsterdam (1977).
- 1978 55 *A semi-discretization algorithm for two-dimensional partial differential equations*,
 J. Kok, P.J. van der Houwen, P.H.M. Wolkenfelt, Report NW 54/78, Mathematisch Centrum, Amsterdam (1978).
- 56 *Backward differentiation formulas for Volterra integral equations of the second kind, Part 2: Numerical experiments*,
 H.J.J. te Riele, P.J. van der Houwen, Report NW 57/78, Mathematisch Centrum, Amsterdam (1978).
- 57 *On the numerical solution of Volterra integral equations of the second kind, Part 2: Runge-Kutta methods*,
 P.J. van der Houwen, J.G. Blom, Report NW 61/78, Mathematisch Centrum, Amsterdam (1978).
- 58 *On the stability of multistep formulas for systems of Volterra integro-differential equations*,
 P.J. van der Houwen, H.J.J. te Riele, P.H.M. Wolkenfelt, Report NW 63/78, Mathematisch Centrum, Amsterdam (1978).
- 1979 59 *Stabilized Runge-Kutta methods for second order differential equations without first derivatives*,
 P.J. van der Houwen, SIAM J. Numer. Anal. 16 (1979) 523-537.
- 60 *One-step splitting methods formulated for semi-discrete parabolic equations*,
 P.J. van der Houwen, J.G. Verwer, Computing 22 (1979) 291-309.
- 61 *Comparing time integrators for parabolic equations in two space dimensions with a mixed derivative*,
 P.J. van der Houwen, B.P. Sommeijer, J.G. Verwer, J. Comput. Appl. Math. 5 (1979) 73-83.
- 62 *Comparison of algorithms for systems of ordinary differential equations originating from parabolic initial-boundary value problems*,
 P.J. van der Houwen, J.G. Verwer, in: Proc. IFIP TC 2.5 working conference on performance evaluation of numerical software, L.D. Fosdick (ed.), North-Holland Publishing Company, Amsterdam (1979) 185-198.
- 63 *On the stability of direct quadrature rules for second kind Volterra integral equations*,
 P.J. van der Houwen, P.H.M. Wolkenfelt, Report NN 18/79, Mathematisch Centrum, Amsterdam (1979).
- 1980 64 *Multistep splitting methods of high order for initial value problems*,
 P.J. van der Houwen, SIAM J. Numer. Anal. 17 (1980) 410-427.

- 65 *On the stability of multistep formulas for Volterra integral equations of the second kind,*
 P.J. van der Houwen, P.H.M. Wolkenfelt, Computing 24 (1980) 341-347.
- 66 *On the internal stability of explicit, m-stage Runge-Kutta methods for large m-values,*
 P.J. van der Houwen, B.P. Sommeijer, Z. angew. Math. Mech. 60 (1980) 479-485.
- 67 *Convergence and stability analysis of Runge-Kutta type methods for Volterra integral equations of the second kind,*
 P.J. van der Houwen, Report NW 83/80, Mathematisch Centrum, Amsterdam (1980).
- 68 *Convergence and stability results in Runge-Kutta type methods for Volterra integral equations of the second kind,*
 P.J. van der Houwen, BIT 20 (1980) 375-377.
- 69 *Multistep splitting methods for nonlinear initial value problems,*
 P.J. van der Houwen, in: *Colloquium Numerical solution of partial differential equations*, J.G. Verwer (ed.), MC Syllabus 44, Mathematisch Centrum, Amsterdam (1980) 98-108.
- 1981 70 *Modified Nyström methods for semi-discrete hyperbolic differential equations,*
 P.J. van der Houwen, SIAM J. Numer. Anal. 18 (1981) 1081-1097.
- 71 *Convergence and stability analysis for modified Runge-Kutta methods in the numerical treatment of second-kind Volterra integral equations,*
 P.J. van der Houwen, P.H.M. Wolkenfelt, C.T.H. Baker, IMA J. Numer. Anal. 1 (1981) 303-328.
- 72 *Backward differentiation type formulas for Volterra integral equations of the second kind,*
 P.J. van der Houwen, H.J.J. te Riele, Numer. Math. 37 (1981) 205-217.
- 73 *Analysis of numerical methods for second kind Volterra equations by imbedding techniques,*
 P.H.M. Wolkenfelt, P.J. van der Houwen, Chr.T.H. Baker, J. Integral Equations 3 (1981) 61-82.
- 74 *On the treatment of time-dependent boundary conditions in splitting methods for parabolic differential equations,*
 B.P. Sommeijer, P.J. van der Houwen, J.G. Verwer, Int. J. Numer. Meth. Engng. 17 (1981) 335-346.
- 75 *On the economization of stabilized Runge-Kutta methods with applications to parabolic initial value problems,*
 B.P. Sommeijer, P.J. van der Houwen, Z. angew. Math. Mech. 61 (1981) 105-114.
- 76 *A-stable Runge-Kutta methods for Volterra integral equations of the second kind,*
 P.J. van der Houwen, in: *Numerical methods in stiff initial value problems*, G. Dahlquist, R. Jeltsch (eds.), Bericht No. 9, TH Aachen (1981) 122-126.
- 77 *Defect correction iteration and splitting methods for time-dependent partial differential equations,*
 P.J. van der Houwen, Report NW 116/81, Mathematisch Centrum, Amsterdam (1981).

- 1982 78 *On the time integration of parabolic differential equations*,
 P.J. van der Houwen, in: *Numerical Analysis*, Proc. of the 9th Biennial Conference,
 G.A. Watson (ed.), Dundee, 1981, Lecture Notes in Mathematics 912, Springer, Berlin
 (1982) 157-168.
- 79 *Preconditioning and coarse grid corrections in the solution of the initial value problem for nonlinear partial differential equations*,
 P.J. van der Houwen, H.B. de Vries, SIAM J. Sci. Stat. Comput. 3 (1982) 473-485.
- 80 *A special class of multistep Runge-Kutta methods with extended real stability interval*,
 P.J. van der Houwen, B.P. Sommeijer, IMA J. Numer. Anal. 2 (1982) 183-209.
- 81 *Linear multistep methods for Volterra integral equations of the second kind*,
 P.J. van der Houwen, H.J.J. te Riele, in: *Treatment of integral equations by numerical methods*, C.T.H. Baker, G.F. Miller (eds.), Academic Press, London (1982), 79-94.
- 82 *Algebraically equivalent linear multistep solutions of Volterra integral equations and certain systems of ODEs*,
 P.J. van der Houwen, Report NW 144/82, Mathematisch Centrum, Amsterdam
 (1982).
- 1983 83 *A fourth order ADI method for semidiscrete parabolic equations*,
 P.J. van der Houwen, H.B. de Vries, J. Comput. Appl. Math. 9 (1983) 41-63.
- 84 *Stability analysis of numerical methods for Volterra integral equations with polynomial convolution kernels*,
 S. Amini, C.T.H. Baker, P.J. van der Houwen, P.H.M. Wolkenfels, J. Integral Equations 5 (1983) 73-92.
- 85 *Analysis of Chebyshev relaxation in multigrid methods for nonlinear parabolic differential equations*,
 P.J. van der Houwen, B.P. Sommeijer, Z. angew. Math. Mech. 63 (1983) 193-201.
- 86 *Improved absolute stability of predictor-corrector methods for retarded differential equations*,
 P.J. van der Houwen, B.P. Sommeijer, in: *Differential-Difference Equations*, L. Collatz, G. Meinardus, W. Wetterling (eds.), Int. Series of Numer. Math. 62, Birkhäuser Verlag, Basel (1983) 137-148.
- 87 *Predictor-corrector methods with improved absolute stability regions*,
 P.J. van der Houwen, B.P. Sommeijer, IMA J. Numer. Anal. 3 (1983) 417-437.
- 1984 88 *Iterated splitting methods of high order for time-dependent partial differential equations*,
 P.J. van der Houwen, SIAM J. Numer. Anal. 21 (1984) 635-656.
- 89 *Generalized predictor-corrector methods with large intervals of stability*,
 P.J. van der Houwen, in: *Proc. of the second Seminar on Numerische Behandlung von Differentialgleichungen*, K. Strehmel (ed.), Martin-Luther-Universität, Halle (1984) 48-51.
- 90 *Software with low storage requirements for two-dimensional, nonlinear, parabolic differential equations, Algorithm 621*,

- B.P. Sommeijer, P.J. van der Houwen, ACM Trans. on Math. Software 10 (1984) 378-396.
- 91 *Stability in linear multistep methods for pure delay equations,*
P.J. van der Houwen, B.P. Sommeijer, J. Comput. Appl. Math. 10 (1984) 55-63.
- 92 *Linear multistep methods with reduced truncation error for periodic initial-value problems,*
P.J. van der Houwen, B.P. Sommeijer, IMA J. Numer. Anal. 4 (1984) 479-489.
- 1985 93 *Runge-Kutta methods for systems of ODEs with imaginary eigenvalues,*
P.J. van der Houwen, in: *Proc. of the fourth conference on the numerical treatment of ordinary differential equations*, R. März (ed.), Berlin, Seminar Bericht nr. 65, Humboldt Universität (1985) 83-88.
- 94 *Stability results for discrete Volterra equations: Numerical experiments,*
P.J. van der Houwen, J.G. Blom, in: *Constructive methods for the practical treatment of integral equations*, G. Hämerlin, K.-H. Hoffmann (eds.), Int. Series of Numer. Math. 73, Birkhäuser Verlag, Basel (1985) 166-178.
- 95 *Linear multistep methods for Volterra integral and integro-differential equations,*
P.J. van der Houwen, H.J.J. te Riele, Math. Comp. 45 (1985) 439-461 (Supplement on pages S21-S28).
- 96 *High order difference schemes with reduced dispersion for hyperbolic differential equations,*
P.J. van der Houwen, B.P. Sommeijer, J. Comput. Appl. Math. 12 & 13 (1985) 145-161.
- 97 *Stability results for discrete Volterra equations,*
P.J. van der Houwen, in: *Mathematical Analysis*, J.M. Rassias (ed.), Teubner-Texte zur Mathematik, Vol. 79, Teubner Verlagsgesellschaft, Leipzig (1985) 114-139.
- 98 *Numerical integration of retarded differential equations with periodic solutions,*
H. Arndt, P.J. van der Houwen, B.P. Sommeijer, in: *Delay Equations, Approximation and Application*, G. Meinardus, G. Nürnberg (eds.), Int. Series of Numer. Math. 74, Birkhäuser Verlag, Basel (1985) 41-51.
- 1986 99 *The Numerical Solution of Volterra Equations,*
H. Brunner, P.J. van der Houwen, CWI Monograph, Vol. 3, North-Holland, Amsterdam (1986).
- 100 *Numerical analysis of the shallow water equations,*
P.J. van der Houwen, B.P. Sommeijer, J.G. Verwer, F.W. Wubs, in: *Mathematics and Computer Science*, Proceedings of the CWI symposium, November 1983, CWI Monograph, Vol. 1, J.W. de Bakker, M. Hazewinkel, J.K. Lenstra (eds.), North-Holland, Amsterdam (1986) 235-268.
- 101 *Spatial discretization of hyperbolic equations with periodic solutions,*
P.J. van der Houwen, Int. J. Numer. Methods Engng. 23 (1986) 1395-1406.
- 102 *Discretization of hyperbolic differential equations with periodic solutions,*
P.J. van der Houwen, in: *Numerical treatment of differential equations*, Proc. of the

- third NUMDIFF conference, Halle, 1985, Teubner-Texte zur Mathematik, Vol. 82 (1986) 75-79.
- 103 *Generalized predictor-corrector methods of high order for the time integration of parabolic differential equations,*
 P.J. van der Houwen, B.P. Sommeijer, H.B. de Vries, Z. angew. Math. Mech. 66 (1986) 595-605.
- 104 *On the stability of predictor-corrector methods for parabolic equations with delay,*
 P.J. van der Houwen, B.P. Sommeijer, Christopher T.H. Baker, IMA J. Numer. Anal. 6 (1986) 1-23.
- 105 *Symmetric linear multistep methods for second-order differential equations with periodic solutions,*
 B.P. Sommeijer, P.J. van der Houwen, B. Neta, Appl. Numer. Math. 2 (1986) 69-77.
- 106 *Reduction of dispersion in hyperbolic difference schemes by adapting the space discretization,*
 P.J. van der Houwen, B.P. Sommeijer, J. Comput. Appl. Math. 16 (1986) 203-214.
- 107 *On the numerical integration of second-order initial value problems with a periodic forcing function,*
 P.J. van der Houwen, B.P. Sommeijer, K. Strehmel, R. Weiner, Computing 37 (1986) 195-218.
- 1987
- 108 *The method of lines and exponential fitting,*
 P.J. van der Houwen, F.W. Wubs, Int. J. Numer. Methods Engng. 24 (1987) 557-567.
- 109 *Explicit Runge-Kutta (-Nyström) methods with reduced phase errors for computing oscillating solutions,*
 P.J. van der Houwen, B.P. Sommeijer, SIAM J. Numer. Anal. 24 (1987) 595-617.
- 110 *Predictor-corrector methods for periodic second-order initial-value problems,*
 P.J. van der Houwen, B.P. Sommeijer, IMA J. Numer. Anal. 7 (1987) 407-422.
- 111 *A numerical study of a 1D stationary semiconductor model,*
 B.P. Sommeijer, W.H. Hundsdorfer, C.T.H. Everaars, P.J. van der Houwen, J.G. Verwer, Report NM-N8702, CWI, Amsterdam (1987).
- 1988
- 112 *Smoothed predictor-corrector methods for solving partial differential equations,*
 P.J. van der Houwen, B.P. Sommeijer, in: Proc. of the intern. conf. on Numerical Mathematics, Singapore, 1988, Int. Series of Numer. Math. 86, Birkhäuser Verlag, Basel (1988) 201-224.
- 113 *Integraalrekening en differentiaalvergelijkingen,*
 P.J. van der Houwen, B.P. Sommeijer, P.M. de Zeeuw, Cursusboek Wiskunde 2 van de Open Universiteit; Deel 3: *Numerieke Wiskunde*, Open Universiteit, Heerlen (1988).
- 114 *Analysis of smoothing matrices for the preconditioning of elliptic difference equations,*
 P.J. van der Houwen, C. Boon, F.W. Wubs, Z. angew. Math. Mech. 68 (1988) 3-10.
- 115 *Stabilization of explicit difference schemes by smoothing techniques,*
 P.J. van der Houwen, in: *Numerical treatment of differential equations*, Proc. of

the fourth NUMDIFF conference, Halle, 1987, K. Strehmel (ed.), Teubner-Texte zur Mathematik, Vol. 104, Teubner Verlagsgesellschaft, Leipzig (1988) 205-215.

- 1989 116 *Phase-lag analysis of implicit Runge-Kutta methods,*
P.J. van der Houwen, B.P. Sommeijer, SIAM J. Numer. Anal. 26 (1989) 214-229.
- 117 *Diagonally implicit Runge-Kutta-Nyström methods for oscillatory problems,*
P.J. van der Houwen, B.P. Sommeijer, SIAM J. Numer. Anal. 26 (1989) 414-429.
- 118 *Analysis of smoothing operators in the solution of partial differential equations by explicit difference schemes,*
P.J. van der Houwen, B.P. Sommeijer, F.W. Wubs, Appl. Numer. Math. 6 (1989) 501-521.
- 119 *A comparative study of Chebyshev acceleration and residue smoothing in the solution of nonlinear elliptic difference equations,*
P.J. van der Houwen, B.P. Sommeijer, G. Pontrelli, in: *Numerical Methods for Ordinary Differential Equations*, A. Bellen, C.W. Gear, E. Russo (eds.), Lecture Notes in Mathematics 1386, Springer Verlag, Berlin (1989) 69-96.
- 120 *The use of smoothing techniques in the method of lines,*
P.J. van der Houwen, B.P. Sommeijer, in: *IMACS Annals on Computing and Applied Mathematics*, R. Vichnevetsky (ed.), Vol. 1, *Numerical and Applied Mathematics*, W.F. Ames, C. Brezinski (eds.), Baltzer, Basel (1989) 549-554.
- 121 *Note on explicit parallel multistep Runge-Kutta methods,*
P.J. van der Houwen, B.P. Sommeijer, P.A. van Mourik, J. Comput. Appl. Math. 27 (1989) 411-420.

- 1990 122 *Improving the stability of predictor-corrector methods by residue smoothing,*
P.J. van der Houwen, B.P. Sommeijer, IMA J. Numer. Anal. 9 (1990) 361-378.
- 123 *Iterated θ -method for hyperbolic equations,*
P.J. van der Houwen, B.P. Sommeijer, Int. J. Numer. Meth. Engng. 30 (1990) 271-290.
- 124 *Parallel iteration of high-order Runge-Kutta methods with stepsize control,*
P.J. van der Houwen, B.P. Sommeijer, J. Comput. Appl. Math. 29 (1990) 111-127.
- 125 *Parallel ODE solvers,*
P.J. van der Houwen, B.P. Sommeijer, Proc. of the Int. Conf. on Supercomputing, June 11-15, 1990, Amsterdam, ACM Press (1990) 71-81.
- 126 *Block Runge-Kutta methods,*
P.J. van der Houwen, in: *Numerical treatment of differential equations*, Proc. of the fifth NUMDIFF conference, Halle, May 22-26, 1989, K. Strehmel (ed.), Teubner-Texte zur Mathematik, Vol. 121 (1990) 225-232.

- 1991 127 *Numerical analysis of time-dependent Boussinesq models,*
P.J. van der Houwen, J. Mooiman, F.W. Wubs, Int. J. Numer. Methods Fluids 13 (1991) 1235-1250.

- 128 *Iterated Runge-Kutta methods on parallel computers*,
 P.J. van der Houwen, B.P. Sommeijer, SIAM J. Sci. Stat. Comput. 12 (1991) 1000-1028.
- 129 *Stability of collocation-based Runge-Kutta-Nyström methods*,
 P.J. van der Houwen, B.P. Sommeijer, Nguyen huu Cong, BIT 31 (1991) 469-481.
- 130 *Smoothed Runge-Kutta methods in the method of lines*,
 P.J. van der Houwen, B.P. Sommeijer, K. Strehmel, Report NM-R9101, CWI, Amsterdam (1991).
- 1992 131 *Block Runge-Kutta methods on parallel computers*,
 P.J. van der Houwen, B.P. Sommeijer, Z. angew. Math. Mech. 72 (1992) 3-18.
- 132 *Embedded diagonally implicit Runge-Kutta algorithms on parallel computers*,
 P.J. van der Houwen, B.P. Sommeijer, W. Couzy, Math. Comp. 58 (1992) 135-159.
- 133 *A-stable parallel block methods for ordinary and integro-differential equations*,
 B.P. Sommeijer, W. Couzy, P.J. van der Houwen, Appl. Numer. Math. 9 (1992) 267-281.
- 134 *Parallel diagonally implicit Runge-Kutta-Nyström methods*,
 P.J. van der Houwen, B.P. Sommeijer, Nguyen huu Cong, Appl. Numer. Math. 9 (1992) 111-131.
- 135 *Fractional Runge-Kutta methods with application to convection-diffusion equations*,
 P.J. van der Houwen, B.P. Sommeijer, Impact of Comput. in Science and Engng. 4 (1992) 195-216.
- 1993 136 *Preconditioning in implicit initial value problem methods on parallel computers*,
 P.J. van der Houwen, Adv. in Comput. Math. 1 (1993) 39-60.
- 137 *Parallel step-by-step methods*,
 P.J. van der Houwen, Appl. Numer. Math. 11 (1993) 69-81.
- 138 *Stability of parallel Volterra-Runge-Kutta methods*,
 M.R. Crisci, P.J. van der Houwen, E. Russo, A. Vecchio, J. Comput. Appl. Math. 45 (1993) 168-180.
- 139 *Analysis of parallel diagonally implicit iteration of Runge-Kutta methods*,
 P.J. van der Houwen, B.P. Sommeijer, Appl. Numer. Math. 11 (1993) 169-188.
- 140 *Parallel Jacobi iteration in implicit step-by-step methods*,
 P.J. van der Houwen, B.P. Sommeijer, in: *Contributions in Numerical Mathematics*, R.P. Agarwal (ed.), World Scientific Series in Applicable Analysis, Vol. 2, World Scientific Publishing Company, Singapore (1993) 225-238.
- 141 *Parallel block predictor-corrector methods of Runge-Kutta type*,
 P.J. van der Houwen, Nguyen huu Cong, Appl. Numer. Math. 13 (1993) 109-123.
- 142 *Selected papers of the sixth NUMDIFF conference on the numerical treatment of differential equations*, Halle, Germany, September, 1992,
 K. Strehmel, P.J. van der Houwen, R. Weiner (eds.), Appl. Numer. Math. 13 (1993) 1-270.

- 143 *Numerical methods for ordinary differential equations*,
 Proc. of the 13th IMACS World Congress on Computational and Applied Mathematics, Dublin, July 22-26, 1991, J.C. Butcher, J.R. Cash, P.J. van der Houwen (eds.), J. Comput. Appl. Math. 45 (1993) 1-236.
- 144 *Parallel iteration schemes for implicit ODEIVP methods*,
 P.J. van der Houwen, Rendiconti del Seminario Matematico e Fisico di Milano, Vol. LXIII (1993) 151-170.
- 1994 145 *Butcher-Kuntzmann methods for nonstiff problems on parallel computers*,
 P.J. van der Houwen, B.P. Sommeijer, Appl. Numer. Math. 15 (1994) 357-374.
- 146 *Preconditioning in parallel Runge-Kutta methods for stiff initial value problems*,
 P.J. van der Houwen, B.P. Sommeijer, Computers Math. Applic. 28 (1994) 17-31.
- 147 *Time integration of three-dimensional numerical transport models*,
 B.P. Sommeijer, P.J. van der Houwen, J. Kok, Appl. Numer. Math. 16 (1994) 201-225.
- 148 *Parallelism across the steps in iterated Runge-Kutta methods for stiff initial value problems*,
 P.J. van der Houwen, B.P. Sommeijer, W.A. van der Veen, Numer. Algorithms 8 (1994) 293-312.
- 149 *Scientific Computation and Differential Equations*,
 Proceedings of the international conference on scientific computation and differential equations, Auckland, New Zealand, January 4-8, 1993, C.T.H. Baker, K. Burrage, P.J. van der Houwen, Z. Jackiewicz, P.W. Sharp (eds.), Annals of Numerical Mathematics, Vol. 1 (1994).
- 150 *On the history of Runge-Kutta methods*,
 P.J. van der Houwen, in: *From Universal Morphisms to Megabytes: A Baayen Space Odyssey*, K. Apt, L. Schrijver, N. Temme (eds.), CWI Amsterdam (1994), 363-376.
- 1995 151 *Convergence aspects of step-parallel iteration of Runge-Kutta methods*,
 W.A. van der Veen, J.J.B. de Swart, P.J. van der Houwen, Appl. Numer. Math. 18 (1995) 397-411.
- 152 *Parallel iteration across the steps of high-order Runge-Kutta methods for nonstiff initial value problems*,
 P.J. van der Houwen, B.P. Sommeijer, W.A. van der Veen, J. Comput. Appl. Math. 60 (1995) 309-329.
- 153 *On solving implicit differential equations on parallel computers*,
 P.J. van der Houwen, W.A. van der Veen, Rendiconti del Seminario Matematico e Fisico di Milano, Vol. LXV (1995) 159-178.
- 154 *Selected papers of the seventh NUMDIFF conference on the numerical treatment of differential equations*, Halle, Germany, September 19-23, 1994,
 P.J. van der Houwen, K. Strehmel, R. Weiner (eds.), Appl. Numer. Math. 18 (1995) 1-430.

- 1996 155 *The development of Runge-Kutta methods for partial differential equations*,
 P.J. van der Houwen, Appl. Numer. Math. 20 (1996) 261-272.
- 156 *Parallel predictor-corrector methods*,
 P.J. van der Houwen, B.P. Sommeijer, J.J.B. de Swart, J. Comput. Appl. Math. 66 (1996) 53-71.
- 157 *Iteration of Runge-Kutta methods with block triangular Jacobians*,
 P.J. van der Houwen, B.P. Sommeijer, Z. angew. Math. Mech. 76 (1996) 367-375.
- 158 *CWI contributions to the development of parallel Runge-Kutta methods*,
 P.J. van der Houwen, B.P. Sommeijer, in: *Special issue celebrating the centenary of Runge-Kutta methods*, J.C. Butcher (ed.), Appl. Numer. Math. 22 (1996) 327-344.
- 1997 159 *Parallel linear system solvers for Runge-Kutta methods*,
 P.J. van der Houwen, J.J.B. de Swart, Adv. Comput. Math. 7 (1997) 157-181.
- 160 *Parallel linear system solvers for Runge-Kutta-Nyström methods*,
 P.J. van der Houwen, E. Messina, J. Comput. Appl. Math. 82 (1997) 407-422.
- 161 *Triangularly implicit iteration methods for ODE-IVP solvers*,
 P.J. van der Houwen, J.J.B. de Swart, SIAM J. Sci. Comput. 18 (1997) 41-55.
- 162 *Waveform relaxation methods for implicit differential equations*,
 P.J. van der Houwen, W.A. van der Veen, Adv. Comput. Math. 7 (1997) 183-197.
- 163 *Splitting methods for three-dimensional transport models with interaction terms*,
 P.J. van der Houwen, B.P. Sommeijer, J. Sci. Comput. 12 (1997) 215-231.
- 164 *Euler-Chebyshev methods for integro-differential equations*,
 P.J. van der Houwen, B.P. Sommeijer, Appl. Numer. Math. 24 (1997) 203-218.
- 165 *The iterative solution of fully implicit discretizations of three-dimensional transport models*,
 P.J. van der Houwen, B.P. Sommeijer, J. Kok, Appl. Numer. Math. 25 (1997) 243-256.
- 166 *The solution of implicit differential equations on parallel computers*,
 P.J. van der Houwen, W.A. van der Veen, Appl. Numer. Math. 25 (1997) 257-274.
- 167 *Parallel linear system solvers for Runge-Kutta methods*,
 P.J. van der Houwen, J.J.B. de Swart, in: *Proc. of the 15th IMACS World Congress*, A. Sydow (ed.), Wissenschaft und Technik Verlag, Berlin, Vol. 2 (1997) 63-68.
- 168 *Parallel methods for solving Runge-Kutta discretizations of Volterra integro-differential equations*,
 P.J. van der Houwen, in: *Proc. of the 15th IMACS World Congress*, A. Sydow (ed.), Wissenschaft und Technik Verlag, Berlin, Vol. 2 (1997) 427-432.
- 1998 169 *Analysis of approximate factorization in iteration methods*,
 C. Eichler-Liebenow, P.J. van der Houwen, B.P. Sommeijer, Appl. Numer. Math. 28 (1998) 245-258.
- 170 *The use of approximate factorization in stiff ODE solvers*,
 P.J. van der Houwen, B.P. Sommeijer, J. Comput. Appl. Math. 100 (1998) 11-21.

- 171 *Splitting methods for second-order initial value problems*,
 P.J. van der Houwen, E. Messina, Numer. Algorithms 18 (1998) 233-257.
- 172 *Parallel methods for nonstiff VIDEs*,
 P.J. van der Houwen, J. Integral Equations Appl. 10 (1998) 503-515.
- 173 *New generation shelf flux models*,
 G. Stelling, D. Roose, B.P. Sommeijer, P.J. van der Houwen, J. Kok, H.X. Lin, K. Tan, Report MAS-R9815, CWI, Amsterdam (1998).
- 174 *Approximate factorization in shallow water applications*,
 P.J. van der Houwen, B.P. Sommeijer, Report MAS-R9835, CWI, Amsterdam (1998).
- 175 *Selected papers of the eighth NUMDIFF conference on the numerical treatment of differential equations*, Alexisbad, Germany, September 1-5, 1997,
 P.J. van der Houwen, K. Strehmel, R. Weiner (eds.), Appl. Numer. Math. 28 (1998) 91-491.
- 176 *Parallel aspects of integration methods for initial value problems*,
 P.J. van der Houwen, in: *Special Functions and Differential Equations*, K. Srinivasa Rao et al. (eds.), Proc. of a workshop held at IMS, Madras, India, January 13-24, 1997, Allied Publishers (1998) 403-431.
- 1999 177 *Parallel Adams methods*,
 P.J. van der Houwen, E. Messina, J. Comput. Appl. Math. 101 (1999) 153-165.
- 178 *Parallel Störmer-Cowell methods for high-precision orbit computations*,
 P.J. van der Houwen, E. Messina, J.J.B. de Swart, Appl. Numer. Math. 31 (1999) 353-374.
- 179 *Splitting methods for partial Volterra integro-differential equations*,
 H. Brunner, P.J. van der Houwen, B.P. Sommeijer, Report MAS-R9909, CWI, Amsterdam (1999).
- 2000 180 *Oscillatory Störmer-Cowell methods*,
 P.J. van der Houwen, E. Messina, B.P. Sommeijer, J. Comput. Appl. Math. 115 (2000) 547-564.
- 181 *Note on the time integration of 3D advection-reaction equations*,
 P.J. van der Houwen, J. Comput. Appl. Math. 116 (2000) 275-278.
- 182 *Diagonally implicit Runge-Kutta methods for 3D shallow water applications*,
 P.J. van der Houwen, B.P. Sommeijer, Adv. Comput. Math. 12 (2000) 229-250.
- 183 *Factorization in block-triangularly implicit methods for shallow water applications*,
 P.J. van der Houwen, B.P. Sommeijer, Report MAS-R9906, CWI, Amsterdam, to appear in Appl. Numer. Math. (2000).
- 184 *Approximate factorization for time-dependent partial differential equations*,
 P.J. van der Houwen, B.P. Sommeijer, Report MAS-R9915, CWI, Amsterdam, to appear in J. Comput. Appl. Math. (2000).
- 185 *Parallel solution of a coupled flow and transport model for shallow water*,
 P.J. van der Houwen, B.P. Sommeijer, Report MAS-R0008, CWI, Amsterdam (2000).

- 186 *Parallel iteration of the extended backward differentiation formulas*,
J.E. Frank, P.J. van der Houwen, to appear in IMA J. Numer. Anal. (2000).
- 187 *Diagonalizable extended backward differentiation formulas*,
J.E. Frank, P.J. van der Houwen, BIT 40 (2000) 497-512.