

参考文献

- [1] Anderson, D.A., Tannehill, J.C., and Pletcher, R.H.: *Computational Fluid Mechanics and Heat Transfer*, Hemisphere Publishing Corporation, 1984.
- [2] Axelsson, O.: Incomplete Block Matrix Factorization Preconditioning Methods. The Ultimate Answer?, *J. Comp. Appl. Math.*, 12&13, pp. 3–18 (1985).
- [3] Axelsson, O., and Polman, B.: On Approximate Factorization Methods for Block-Matrices Suitable for Vector and Parallel Processors, *Lin. Alg. Appl.*, 77, pp. 3–26 (1986).
- [4] Axelsson, O.: *Iterative Solution Methods*, Cambridge University Press, New York, 1996.
- [5] Barrett, R., Berry, M., Chan, T.F., Demmel, J., Donato, J., Dongarra, J., Eijkhout, V., Pozo, R., Romine, C., and Van der Vorst, H.A.: *Templates for the solution of linear systems: Building Blocks for Iterative Methods*, SIAM, 1994. (邦訳) 長谷川里美, 長谷川秀彦, 藤野清次: 反復法 Templates, 朝倉書店, 1996.
- [6] Bruaset, A.M.: *A Survey of Preconditioned Iterative Methods*, Frontiers in Applied Mathematics 17, Longman Scientific & Technical, London, 1995.
- [7] Chan, T.F., and Van der Vorst, H.A.: Approximate and Incomplete Factorizations., In Keyes, D.E., Sameh, A. and Venkatakrishnan, V. editors, *Parallel Numerical Algorithms, ICASE/LaRC Interdisciplinary Series in Science and Engineering*, Kluwer, Dordrecht, pp. 167–202 (1997).
- [8] Chatelin, F., Valeurs Propres de Matrices, Springer-Verlag, Berlin, 1988. (邦訳) 伊理正夫, 伊理由美, 行列の固有値, シュプリンガー・フェアラーク東京, 1993.
- [9] Concus, P., Golub, G.H., and Meurant, G.: Block Preconditioning for the Conjugate Gradient Method, *SIAM J. Sci. Stat. Comput.*, 6, pp. 220–252 (1985).
- [10] Dongarra, J.J., Duff, I.S., Sorensen, D.C., and Van der Vorst, H.A.: *Solving Linear Systems on Vector and Shared Memory Computers*, SIAM, 1991. (邦訳) 小国力:

- コンピュ - タによる連立一次方程式の解法 - ベクトル計算機と並列計算機 - , 丸善, 1993.
- [11] Dongarra, J.J., Duff, I.S., Sorensen, D.C. and Van der Vorst, H.A.: *Numerical Linear Algebra for High-Performance Computers* , SIAM, 1998.
 - [12] Duff, I.S., and Meurant, G.A.: The Effect of Ordering on Preconditioned Conjugate Gradients, *BIT*, 29, pp. 635–657 (1989).
 - [13] Eisenstat, S.C.: Efficient Implementation of a Class of Preconditioned Conjugate Gradient Methods, *SIAM J. Sci. Stat. Comput.*, 2, pp. 1–4 (1981).
 - [14] Eisenstat, S.C., Elman, H.C., and Schultz, M.H.: Variational Iterative Methods for Nonsymmetric Systems of Linear Equations, *SIAM J. Numer. Anal.* , 20, pp. 345–357 (1983).
 - [15] Fletcher, R.: Conjugate Gradient Methods for Indefinite Systems, in *Numerical Analysis Dundee 1975*, ed. by Watson,G., Lecture Notes in Mathematics, 506, Springer-Verlag, pp. 73–89 (1976).
 - [16] 藤野清次, 張 紹良: 反復法の数理, 朝倉書店, 1996.
 - [17] Golub, G.H., and O'leary, D.P.: Some History of the Conjugate Gradient and Lanczos Algorithms: 1948–1976, *SIAM Review* , 31, pp. 50–102, (1989).
 - [18] Golub, G.H., and Ortega, J.M.: *Scientific Computing an Introduction with Parallel Computing* , Academic Press, INC., London, 1993.
 - [19] Golub, G.H., and Van Loan, C.F.: *Matrix Computations*, The Johns Hopkins University Press, Baltimore and London, 1996.
 - [20] Hager, W.W.: Updating the Inverse of a Matrix, *SIAM Review*, 31, pp. 221–239 (1989).
 - [21] Heller, D.: Some Aspects of the Cyclic Reduction Algorithm for Block Tridiagonal Linear Systems, *SIAM J. Numer. Anal.*, 13, pp. 484–496 (1976).
 - [22] Henderson, H.V.: On Deriving the Inverse of a Sum of Matrices, *SIAM Review*, 23, pp. 53–60 (1981).
 - [23] Hestenes, M.R., and Stiefel, E.: Methods of Conjugate Gradients for Solving Linear Systems, *J. Res. Nat. Bur. Standards* , 49, pp. 409–435 (1952).
 - [24] Hockney, R.W., and Jesshope, C.R.: *Parallel Computers*, Adam Hilger, 1981. (邦訳) 奥川峻史, 黒住祥祐: 並列計算機, 共立出版, 1984.

- [25] 伊藤祥司, 張 紹良, 名取 亮: ブロック 5 重対角行列群に対する Rotated Alternative LU 分解法について, 情報処理学会論文誌, 38, pp. 2402–2405 (1997).
- [26] 伊藤祥司, 張 紹良, 名取 亮: 周期境界要素を持つブロック 5 重対角行列群への Rotated Alternative LU 分解法の適用について, 情報処理学会論文誌, 39, pp. 153–156 (1998).
- [27] Itoh, S., Zhang, S.-L., Oyanagi, Y., and Natori, M.: Splitting Correction Preconditioner for Linear Systems that Arise from Periodic Boundary Problems, *ISE-TR-00-170, Technical Report*, University of Tsukuba, June, (2000).
- [28] Itoh, S., Zhang, S.-L., Oyanagi, Y., and Natori, M.: Spectral Properties by Using Splitting Correction Preconditioner for Linear Systems that Arise from Periodic Boundary Problems, *Proceedings of 2000 International Conference on Information Society in the 21st Century: Emerging Technologies and New Challenges (IS2000)*, Aizu, Japan, Nov., 2000.
- [29] Itoh, S., Oyanagi, Y., Zhang, S.-L., and Natori, M.: Parallel Aspect of Block Preconditioning with the Splitting Correction, *Proceedings of Tenth SIAM Conference on Parallel Processing for Scientific Computing*, Virginia, USA, Mar., (2001), to appear.
- [30] 岩崎洋一, 宇川 彰, 梅村雅之: 計算物理学と CP-PACS 計画, 情報処理, 37, pp. 11–17 (1996).
- [31] 唐木幸比古: スーパーコンピュータとは, *Computer Today*, pp. 8–17, 2, (1984).
- [32] Kelley, C.T.: *Iterative Methods for Linear and Nonlinear Equations*, SIAM, Philadelphia, 1995.
- [33] Lanczos, C.: Solution of Systems of Linear Equations by Minimized Iterations, *J. of Res. Nat. Bur. of Standards*, 49, pp. 33–53, (1952).
- [34] Meijerink, J.A., and Van der Vorst, H.A.: An Iterative Solution Method for Linear Systems of Which the Coefficient Matrix is a Symmetric *M*-Matrix, *Math. Comput.*, 31, pp. 148–162, (1977).
- [35] Meijerink, J.A., and Van der Vorst, H.A.: Guidelines for the Usage of Incomplete Decompositions in Solving Sets of Linear Equations as They Occur in Practical Problems, *J. of Comp. Phys.*, 44, pp. 134–155 (1981).
- [36] Meurant, G.: The Block Preconditioned Conjugate Gradient Method on Vector Computers, *BIT*, 24, pp. 623–633 (1984).
- [37] 森 正武: FORTRAN77 数値計算プログラミング, 岩波書店, 1986.

- [38] 森 正武, 杉原正顕, 室田一雄: 線形計算, 岩波書店, 1988.
- [39] 村田健郎, 小国 力, 三好俊郎, 小柳義夫: 工学における数値シミュレーション - スーパーコンピュータの応用 -, 丸善, 1988.
- [40] 村田健郎, 名取 亮, 唐木幸比古: 大型数値シミュレーション, 岩波書店, 1990.
- [41] 名取 亮: 数値解析とその応用, コロナ社, 1990.
- [42] 名取 亮: 線形計算, 朝倉書店, 1993.
- [43] 日本物理学会編: スーパーコンピュータ, 培風館, 1985.
- [44] 日本学術振興会: 未来開拓学術研究推進事業「計算科学」1997-1998 報告書, 1998.
- [45] 日本学術振興会: 未来開拓学術研究推進事業「計算科学」1999-2000 報告書, 2000.
- [46] 小国 力, 村田健郎, 三好俊郎, ドンガラ, J.J., 長谷川秀彦: 行列計算ソフトウェア - WS, スーパーコン, 並列計算機 -, 丸善, 1991.
- [47] 小柳義夫: 科学の未来を開拓する計算機, *Computer Today*, pp. 4-7, 2, (1984).
- [48] Oyanagi, Y.: Development of Supercomputers in Japan: Hardware and Software, *Parallel Computing*, pp. 1545-1567, 25, (1999).
- [49] Pulliam, T.H.: Euler and Thin Layer Navier-Stokes Codes: ARC2D, ARC3D, *Notes for Computational Fluid Dynamics User's Workshop*, pp. 15.1-15.84, (1984).
- [50] Richardson, L.F.: The Approximate Arithmetical Solution by Finite Differences of Physical Problems Involving Differential Equations with an Application to the Stresses to a Masonry Dam, *Philos. Trans. Roy. Soc. London ser. A*, 210, pp. 307-357, (1910).
- [51] Saad, Y., and Schultz, M.H.: GMRES: A Generalized Minimal Residual Algorithm for Solving Nonsymmetric Linear Systems, *SIAM J. Sci. Stat. Comput.*, 7, pp. 856-869, (1986).
- [52] Saad, Y.: *Iterative Methods for Sparse Linear Systems*, PWS, Boston, 1996.
- [53] Saad, Y., Van der Vorst, H.A.: Iterative Solution of Linear Systems in the 20-th Century, *J. Comp. Appl. Math.*, 123, pp. 1-33, (2000).
- [54] 関口智嗣, 小柳義夫: 科学技術計算における並列化技術, 情報処理, 27, pp. 985-994 (1986).
- [55] 標 宣男, 鈴木正昭, 石黒美佐子, 寺坂晴夫: 数値流体力学, 朝倉書店, 1994.

- [56] Sonneveld, P.: CGS, A Fast Lanczos-Type Solver for Nonsymmetric Linear Systems, *SIAM J. Sci. Stat. Comput.*, 10, pp. 36–52, (1989).
- [57] Stone, H.S.: An Efficient Parallel Algorithm for the Solution of a Tridiagonal Linear System of Equations, *J. ACM*, 20, pp. 27–38 (1973).
- [58] Strohmaier, E., Dongarra, J.J., Meuer, H.W., and Simon, H.D.: The Marketplace of High-performance Computing, *Parallel Computing*, pp. 1517–1544, 25, (1999).
- [59] 谷 啓二, 横川三津夫: 地球シミュレータ 地球(ガイア)との共生の指針を求めて, 情報処理, 41, pp. 249–254 (2000).
- [60] 富田眞治: 並列コンピュータ工学, 昭晃堂, 1996.
- [61] 津田孝夫: 数値処理プログラミング, 岩波書店, 1988.
- [62] Van der Vorst, H.A.: *Preconditioning by Incomplete Decompositions*, Ph.D.Thesis, University of Utrecht, The Netherlands, 1982.
- [63] Van der Vorst, H.A.: Large Tridiagonal and Block Tridiagonal Linear Systems on Vector and Parallel Computers, *Parallel Computing*, 5, pp. 45–54 (1987).
- [64] Van der Vorst, H.A.: Analysis of a parallel solution method for tridiagonal linear systems, *Parallel Computing*, 5, pp. 303–311 (1987).
- [65] Van der Vorst, H.A.: Bi-CGSTAB: A Fast and Smoothly Converging Variant of Bi-CG for the Solution of Nonsymmetric Linear Systems, *SIAM J. Sci. Stat. Comput.*, 13, pp. 631–644 (1992).
- [66] Varga, R.S.: *Matrix Iterative Analysis*, Prentice-Hall, Englewood Cliffs, New Jersey, 1962. (邦訳) 渋谷政昭 : 計算機による大型行列の反復解法, サイエンス社, 1972.
- [67] Yarrow, M.: Solving Periodic Block Tridiagonal Systems Using the Sherman-Morrison-Woodbury Formula, *AIAA 9th Computational Fluid Dynamics Conf.*, Jun. 13-15, pp. 188–196 (1989).
- [68] 張 紹良, 藤野清次: ランチョス・プロセスに基づく積型反復解法, 日本応用数理学会論文誌, 5, pp. 343–360, (1995).
- [69] Zhang, S.-L.: GPBi-CG: Generalized Product-type Methods Based on Bi-CG for Solving Nonsymmetric Linear Systems, *SIAM J. Sci. Comput.*, 18, pp. 537–551 (1997).