Roland W. Freund

J. Stoer and R. W. Freund. On the solution of large indefinite systems of linear equations by conjugate gradient algorithms. In R. Glowinski and J. L. Lions, editors, *Proceedings of the Fifth International Conference on Computing Methods in Applied Sciences and Engineering*, pages 35–53. North-Holland, 1982.

R. W. Freund. Über einige cg-ähnliche Verfahren zur Lösung linearer Gleichungssysteme. Doctoral Thesis, Universität Würzburg, Germany, 1983.

R. W. Freund and S. Ruscheweyh. On a class of Chebyshev approximation problems which arise in connection with a conjugate gradient type method. *Numerische Mathematik*, 48:525–542, 1986.

R. W. Freund. A note on two block-SOR methods for sparse least squares problems. *Linear Algebra and Its Applications*, 88/89:211–221, 1987.

R. W. Freund. On some approximation problems for complex polynomials. *Constructive Approximation*, 4:111–121, 1988.

R. W. Freund and T. Huckle. An extension problem for H-unitary matrices with applications to Hermitian Toeplitz matrices. *Linear Algebra and Its Applications*, 108:213–230, 1988.

R. W. Freund and T. Huckle. On Hermitian block Toeplitz matrices and generalizations of a theorem of C. caratheodory. In *Proceedings of the Bavarian Academy of Sciences*, pages 41–61, 1988.

R. W. Freund. On polynomial approximations to $f_a(z) = (z - a)^{-1}$ with complex a and some applications to certain non-Hermitian matrices. *Approximation Theory and Its Applications*, 5: 15–31, 1989.

R. W. Freund and T. Huckle. Extension problems for H-unitary matrices and Hermitian block Toeplitz matrices. *Zeitschrift für Angewandte Mathematik und Mechanik*, 69:T210–T212, 1989.

R. W. Freund and T. Huckle. On H-contractions and the extension problem for Hermitian block Toeplitz matrices. *Linear and Multilinear Algebra*, 25:27–37, 1989.

R. W. Freund. On polynomial preconditioning for indefinite Hermitian matrices. Technical Report 89.32, RIACS, NASA Ames Research Center, Moffett Field, California, 1989.

R. W. Freund. Pseudo-Ritz values for indefinite Hermitian matrices. Technical Report 89.33, RIACS, NASA Ames Research Center, Moffett Field, California, 1989.

B. Fischer and R. W. Freund. Optimal Chebyshev polynomials on ellipses in the complex plane. In C. K. Chui, L. L. Schumaker, and D. J. Ward, editors, *Approximation Theory VI*, pages 251–254. Academic Press, 1989.

R. W. Freund. Explicitly solvable complex approximation problems related to sine polynomials. In C. K. Chui, L. L. Schumaker, and D. J. Ward, editors, *Approximation Theory VI*, pages 263–266. Academic Press, 1989.

R. W. Freund. On conjugate gradient type methods and polynomial preconditioners for a class of complex non-Hermitian matrices. *Numerische Mathematik*, 57:285–312, 1990.

B. Fischer and R. W. Freund. On the constrained Chebyshev approximation problem on ellipses. *Journal of Approximation Theory*, 62: 297–315, 1990.

P. Deuflhard, R. W. Freund, and A. Walter. Fast secant methods for the iterative solution of large nonsymmetric linear systems. *Impact of Computing in Science and Engineering*, 2: 244–276, 1990.

R. W. Freund. On Bernstein type inequalities and a weighted Chebyshev approximation problem on ellipses. In S. Ruscheweyh, E. B. Saff, L. C. Salinas, and R. S. Varga, editors, *Computational Methods and Function Theory, Proceedings, Valparaiso 1989*, pages 45–55. Springer-Verlag, 1990.

R. W. Freund, M. H. Gutknecht, and N. M. Nachtigal. An implementation of the look-ahead Lanczos algorithm, part I. Technical Report 90.45, RIACS, NASA Ames Research Center, Moffett Field, California, 1990.

R. W. Freund and N. M. Nachtigal. An implementation of the look-ahead Lanczos algorithm, part II. Technical Report 90.46, RIACS, NASA Ames Research Center, Moffett Field, California, 1990.

B. Fischer and R. W. Freund. New Bernstein type inequalities for polynomials on ellipses. *Complex Variables*, 16:289–305, 1991.

B. Fischer and R. W. Freund. Chebyshev polynomials are not always optimal. *Journal of Approximation Theory*, 65:261–272, 1991.

R. W. Freund. On polynomial preconditioning and asymptotic convergence factors for indefinite Hermitian matrices. *Linear Algebra and Its Applications*, 154-156:259–288, 1991.

R. W. Freund. Krylov subspace methods for complex non-Hermitian linear systems. Habilitation Thesis, Universität Würzburg, Germany, 1991.

R. W. Freund and N. M. Nachtigal. QMR: a quasi-minimal residual method for non-Hermitian linear systems. *Numerische Mathematik*, 60:315–339, 1991.

R. W. Freund and M. Hochbruck. A biconjugate gradient type algorithm on massively parallel architectures. In R. Vichnevetsky and J. J. H. Miller, editors, *IMACS '91, Proceedings of the 13th World Congress on Computational and Applied Mathematics*, pages 720–721. Criterion Press, Dublin, 1991.

R. W. Freund. Conjugate gradient-type methods for linear systems with complex symmetric coefficient matrices. *SIAM Journal on Scientific and Statistical Computing*, 13:425–448, 1992.

R. W. Freund, G. H. Golub, and N. M. Nachtigal. Iterative solution of linear systems. *Acta Numerica*, 1:57–100, 1992.

R. W. Freund. Quasi-kernel polynomials and convergence results for quasi-minimal residual iterations. In D. Braess and L. L. Schumaker, editors, *Numerical Methods of Approximation Theory, Vol. 9*, pages 77–95. Birkhäuser, 1992.

R. W. Freund and M. Hochbruck. On the use of two QMR algorithms for solving singular systems and applications in markov chain modeling. In *Proceedings of the Second Copper Mountain Conference on Iterative Methods*, 1992.

R. W. Freund and T. Szeto. A quasi-minimal residual squared algorithm for non-Hermitian linear systems. In *Proceedings of the Second Copper Mountain Conference on Iterative Methods*, 1992.

R. W. Freund and N. M. Nachtigal. QMR: a quasi-minimal residual method for non-Hermitian linear systems. In R. Beauwens and P. de Groen, editors, *Iterative Methods in Linear Algebra*, pages 151–154. Elsevier Science Publishers, 1992.

B. Fischer and R. W. Freund. On adaptive weighted polynomial preconditioning for Hermitian positive definite matrices. In *Proceedings of the Second Copper Mountain Conference on Iterative Methods*, 1992.

R. W. Freund. Quasi-kernel polynomials and their use in non-Hermitian matrix iterations. *Journal of Computational and Applied Mathematics*, 43:135–158, 1992.

R. W. Freund and M. Hochbruck. A biconjugate gradient-type algorithm for the iterative solution of non-Hermitian linear systems on massively parallel architectures. In C. Brezinski and U. Kulisch, editors, *IMACS '91, Proceedings of the 13th World Congress on Computational and Applied Mathematics I—Algorithms and Theory*, pages 169–178. Elsevier Science Publishers, 1992.

R. W. Freund and T. Szeto. A transpose-free quasi-minimal residual squared algorithm for non-Hermitian linear systems. In R. Vichnevetsky, D. Knight, and G. Richter, editors, *Advances in Computer Methods for Partial Differential Equations – VII*, pages 258–264. IMACS, 1992.

R. W. Freund, M. H. Gutknecht, and N. M. Nachtigal. An implementation of the look-ahead Lanczos algorithm for non-Hermitian matrices. *SIAM Journal on Scientific Computing*, 14:137–158, 1993.

R. W. Freund. A transpose-free quasi-minimal residual algorithm for non-Hermitian linear systems. *SIAM Journal on Scientific Computing*, 14:470–482, 1993.

R. W. Freund and T. Huckle. A restricted signature normal form for Hermitian matrices, quasi-spectral decompositions, and applications. *Linear Algebra and Its Applications*, 184:165–186, 1993.

R. W. Freund. The look-ahead Lanczos process for large nonsymmetric matrices and related algorithms. In M. S. Moonen, G. H. Golub, and B. L. R. de Moor, editors, *Linear Algebra for Large Scale and Real-Time Applications*, pages 137–163. Kluwer Academic Publishers, 1993.

R. W. Freund and M. Hochbruck. Gauss quadratures associated with the Arnoldi process and the Lanczos algorithm. In M. S. Moonen, G. H. Golub, and B. L. R. de Moor, editors, *Linear Algebra for Large Scale and Real-Time Applications*, pages 377–380. Kluwer Academic Publishers, 1993.

R. W. Freund and N. M. Nachtigal. An implementation of the QMR method based on coupled two-term recurrences. In M. S. Moonen, G. H. Golub, and B. L. R. de Moor, editors, *Linear Algebra for Large Scale and Real-Time Applications*, pages 381–384. Kluwer Academic Publishers, 1993.

R. W. Freund and H. Zha. A look-ahead algorithm for the solution of general Hankel systems. *Numerische Mathematik*, 64:295–321, 1993.

R. W. Freund. Solution of shifted linear systems by quasi-minimal residual iterations. In L. Reichel, A. Ruttan, and R. S. Varga, editors, *Numerical Linear Algebra*, pages 101–121. W. de Gruyter, 1993.

R. W. Freund and N. M. Nachtigal. Implementation details of the coupled QMR algorithm. In L. Reichel, A. Ruttan, and R. S. Varga, editors, *Numerical Linear Algebra*, pages 123–140. W. de Gruyter, 1993.

R. W. Freund, G. H. Golub, and N. M. Nachtigal. Recent advances in Lanczos-based iterative methods for nonsymmetric linear systems. In M. Y. Hussaini, A. Kumar, and M. D. Salas, editors, *Algorithmic Trends in Computational Fluid Dynamics*, pages 137–162. Springer-Verlag, 1993.

R. W. Freund and H. Zha. Formally biorthogonal polynomials and a look-ahead levinson algorithm for general Toeplitz systems. *Linear Algebra and Its Applications*, 188/189:255–303, 1993.

R. W. Freund. Transpose-free quasi-minimal residual methods for non-Hermitian linear systems. In G. Golub, A. Greenbaum, and M. Luskin, editors, *Recent Advances in Iterative Methods, The IMA Volumes in Mathematics and its Applications, Vol. 60*, pages 69–94. Springer-Verlag, 1994.

R. W. Freund and N. M. Nachtigal. An implementation of the QMR method based on coupled two-term recurrences. *SIAM Journal on Scientific Computing*, 15:313–337, 1994.

B. Fischer and R. W. Freund. On adaptive weighted polynomial preconditioning for Hermitian positive definite matrices. *SIAM Journal on Scientific Computing*, 15:408–426, 1994.

R. W. Freund and F. Jarre. A polynomial-time algorithm for fractional programs with convex constraints. *Zeitschrift für Angewandte Mathematik und Mechanik*, 74:T523–T525, 1994.

R. W. Freund. A look-ahead Schur-type algorithm for solving general Toeplitz systems. *Zeitschrift für Angewandte Mathematik und Mechanik*, 74:T538–T541, 1994.

W. M. Coughran, Jr., R. W. Freund, and R. K. Smith. Algorithms for augmented device simulation models incorporating IV continuation and circuit element equations. In *Workshop on Numerical Modeling of Processes and Devices for Integrated Circuits: NUPAD V Technical Digest*, pages 127–128, 1994.

R. W. Freund. A look-ahead Bareiss algorithm for general Toeplitz matrices. *Numerische Mathematik*, 68:35–69, 1994.

R. W. Freund and N. M. Nachtigal. A new Krylov-subspace method for symmetric indefinite linear systems. In W. F. Ames, editor, *Proceedings of the 14th IMACS World Congress on Computational and Applied Mathematics*, pages 1253–1256. IMACS, 1994.

R. W. Freund and N. M. Nachtigal. QMR-PACK and applications. In W. F. Ames, editor, *Proceedings of the 14th IMACS World Congress on Computational and Applied Mathematics*, pages 1257–1260. IMACS, 1994.

P. Feldmann and R. W. Freund. Efficient linear circuit analysis by Padé approximation via the Lanczos process. In *Proceedings of EURO-DAC '94 with EURO-VHDL '94, Grenoble, France*, pages 170–175. IEEE Computer Society Press, 1994.

R. W. Freund. The look-ahead Lanczos process for nonsymmetric matrices and its applications. In J. D. Brown, M. T. Chu, D. C. Ellison, and R. J. Plemmons, editors, *Proceedings of the Cornelius Lanczos International Centenary Conference*, pages 33–47. SIAM, 1994.

R. W. Freund. Lanczos-type algorithms for structured non-Hermitian eigenvalue problems. In J. D. Brown, M. T. Chu, D. C. Ellison, and R. J. Plemmons, editors, *Proceedings of the Cornelius Lanczos International Centenary Conference*, pages 243–245. SIAM, 1994.

R. W. Freund and B. Fischer. An inner product-free conjugate gradient-like algorithm for Hermitian positive definite systems. In J. D. Brown, M. T. Chu, D. C. Ellison, and R. J. Plemmons, editors, *Proceedings of the Cornelius Lanczos International Centenary Conference*, pages 288–290. SIAM, 1994.

R. W. Freund and P. Feldmann. Efficient small-signal circuit analysis and sensitivity computations with the PVL algorithm. In *Technical Digest of the 1994 IEEE/ACM International Conference on Computer-Aided Design*, pages 404–411. IEEE Computer Society Press, 1994.

R. W. Freund. A look-ahead Schur-type algorithm for solving general Toeplitz systems. In F. T. Luk, editor, *Advanced Signal Processing: Algorithms, Architectures, and Implementations V, Proc. SPIE, Vol. 2296*, pages 482–493. SPIE, 1994.

R. W. Freund and M. Hochbruck. On the use of two QMR algorithms for solving singular systems and applications in markov chain modeling. *Numerical Linear Algebra with Applications*, 1:403–420, 1994.

R. W. Freund and F. Jarre. An interior-point method for fractional programs with convex constraints. *Mathematical Programming*, 67: 407–440, 1994.

R. W. Freund and F. Jarre. An interior-point method for multifractional programs with convex constraints. *Journal of Optimization Theory and Applications*, 85:125–161, 1995.

C. Baldwin, R. W. Freund, and E. Gallopoulos. A parallel iterative method for exponential propagation. In D. H. Bailey, P. E. Bjørstad, J. R. Gilbert, M. V. Mascagni, R. Schreiber, H. D. Simon, V. J. Torczon, and L. T. Watson, editors, *Proceedings of the Seventh SIAM Conference on Parallel Processing for Scientific Computing*, pages 534–539. SIAM, 1995.

P. Feldmann and R. W. Freund. Efficient linear circuit analysis by Padé approximation via the Lanczos process. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 14:639–649, 1995.

P. Feldmann and R. W. Freund. Reduced-order modeling of large linear subcircuits via a block Lanczos algorithm. In *Proceedings of the 32nd Design Automation Conference, San Francisco, California*, pages 474–479. Association for Computing Machinery, Inc., 1995.

R. W. Freund. Computation of matrix Padé approximations of transfer functions via a Lanczos-type process. In C. K. Chui and L. L. Schumaker, editors, *Approximation Theory VIII, Vol. 1: Approximation and Interpolation*, pages 215–222. World Scientific Publishing Co., 1995.

R. W. Freund and N. M. Nachtigal. Software for simplified Lanczos and QMR algorithms. *Applied Numerical Mathematics*, 19:319–341, 1995.

R. W. Freund and N. M. Nachtigal. QMR-PACK: a package of QMR algorithms. *ACM Transactions on Mathematical Software*, 22:46–77, 1996.

R. W. Freund and P. Feldmann. Small-signal circuit analysis and sensitivity computations with the PVL algorithm. *IEEE Transactions on Circuits and and Systems—II: Analog and Digital Signal Processing*, 43:577–585, 1996.

P. Feldmann and R. W. Freund. Apparatus and method for analyzing circuits. *U.S. Patent 5,537,329*, July 16, 1996.

R. W. Freund, F. Jarre, and S. Schaible. On self-concordant barrier functions for conic hulls and fractional programming. *Mathematical Programming*, 74:237–246, 1996.

R. W. Freund and P. Feldmann. Reduced-order modeling of large passive linear circuits by means of the SyPVL algorithm. In *Technical Digest of the 1996 IEEE/ACM International Conference on Computer-Aided Design*, pages 280–287. IEEE Computer Society Press, 1996.

R. W. Freund and F. Jarre. A QMR-based interior-point algorithm for solving linear programs. *Mathematical Programming, Series B*, 76:183–210, 1996.

R. W. Freund. Circuit simulation techniques based on Lanczos-type algorithms. In C. I. Byrnes, B. N. Datta, D. S. Gilliam, and C. F. Martin, editors, *Systems and Control in the Twenty-First Century*, pages 171–184. Birkäuser, 1997.

R. W. Freund and M. Malhotra. A block QMR algorithm for non-Hermitian linear systems with multiple right-hand sides. *Linear Algebra and Its Applications*, 254:119–157, 1997.

M. Malhotra, R. W. Freund, and P. M. Pinsky. Iterative solution of multiple radiation and scattering problems in structural acoustics using a block quasi-minimal residual algorithm. *Computer Methods in Applied Mechanics and Engineering*, 146:173–196, 1997.

R. W. Freund. Preconditioning of symmetric, but highly indefinite linear systems. In A. Sydow, editor, *15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics, Vol. 2, Numerical Mathematics*, pages 551–556. Wissenschaft und Technik Verlag, 1997.

R. W. Freund and M. Malhotra. The block-QMR method for the solution of multiple radiation and scattering problems in structural acoustics. In A. Sydow, editor, *15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics, Vol. 3, Computational Physics, Chemistry and Biology*, pages 461–466. Wissenschaft und Technik Verlag, 1997.

P. Fiebach, R. W. Freund, and A. Frommer. Variants of the block-QMR method and applications in quantum chromodynamics. In A. Sydow, editor, *15th IMACS World Congress on Scientific Computation, Modelling and Applied Mathematics, Vol. 3, Computational Physics, Chemistry and Biology*, pages 491–496. Wissenschaft und Technik Verlag, 1997.

P. Feldmann and R. W. Freund. Interconnect-delay computation and signal-integrity verification using the SyMPVL algorithm. In *Proceedings of the 1997 European Conference on Circuit Theory and Design*, pages 408–413. European Circuit Society, 1997.

Jr. W. M. Coughran and R. W. Freund. Recent advances in Krylov-subspace solvers for linear systems and applications in device simulation. In *Proceedings of the 1997 International Conference on Simulation of Semiconductor Processes and Devices*, pages 9–16. IEEE, 1997.

R. W. Freund and P. Feldmann. The SyMPVL algorithm and its applications to interconnect simulation. In *Proceedings of the 1997 International Conference on Simulation of Semiconductor Processes and Devices*, pages 113–116. IEEE, 1997.

P. Feldmann and R. W. Freund. Circuit noise evaluation by Padé approximation based model-reduction techniques. In *Technical Digest of the 1997 IEEE/ACM International Conference on Computer-Aided Design*, pages 132–138. IEEE Computer Society Press, 1997.

P. Feldmann and R. W. Freund. Apparatus and method for analyzing circuits using reduced-order modeling of large linear subcircuits. *U.S. Patent 5,689,685*, November 18, 1997.

R. W. Freund. Computing minimal partial realizations via a Lanczos-type algorithm for multiple starting vectors. In *Proceedings of the 36th IEEE Conference on Decision and Control*, pages 4394–4399. IEEE, 1997.

Z. Bai, P. Feldmann, and R. W. Freund. Stable and passive reduced-order models based on partial Padé approximation via the Lanczos process. Numerical Analysis Manuscript 97–3–10, Bell Laboratories, 1997. URL `http://cm.bell-labs.com/cm/cs/doc/97/3-10.ps.gz`.

R. W. Freund and P. Feldmann. Reduced-order modeling of large linear passive multi-terminal circuits using matrix-Padé approximation. In *Proceedings of the Design, Automation and Test in Europe Conference 1998*, pages 530–537. IEEE Computer Society Press, 1998.

Z. Bai, P. Feldmann, and R. W. Freund. How to make theoretically passive reduced-order models passive in practice. In *Proceedings of the IEEE 1998 Custom Integrated Circuits Conference*, pages 207–210. IEEE, 1998.

R. W. Freund, F. Jarre, and S. Mizuno. Convergence of a class of inexact interior-point algorithms for linear programs. *Mathematics of Operations Research*, 24:50–71, 1999.

R. W. Freund. Reduced-order modeling techniques based on Krylov subspaces and their use in circuit simulation. In B. N. Datta, editor, *Applied and Computational Control, Signals, and Circuits, Volume 1*, pages 435–498. Birkhäuser, Boston, 1999.

R. W. Freund. Passive reduced-order models for interconnect simulation and their computation via Krylov-subspace algorithms. In *Proceedings of the 36th Design Automation Conference, New Orleans, Louisiana*, pages 195–200. Association for Computing Machinery, Inc., 1999.

Z. Bai, P. Feldmann, and R. W. Freund. Apparatus and method for analyzing circuits using reduced-order modeling of large linear subcircuits. *U.S. Patent 6,023,573*, February 8, 2000.

J. I. Aliaga, D. L. Boley, R. W. Freund, and V. Hernández. A Lanczos-type method for multiple starting vectors. *Mathematics of Computation*, 69:1577–1601, 2000.

D. J. Estep and R. W. Freund. Using Krylov-subspace iterations in discontinuous Galerkin methods for nonlinear reaction-diffusion systems. In B. Cockburn, G. E. Karniadakis, and C.-W. Shu, editors, *Discontinuous Galerkin Methods*, Lecture Notes in Computational Science and Engineering, Vol. 11, pages 327–335. Springer-Verlag, Berlin, 2000.

P. Feldmann and R. W. Freund. Apparatus and method for analyzing passive circuits using reduced-order modeling of large linear subcircuits. *U.S. Patent 6,041,170*, March 21, 2000.

R. W. Freund. Passive reduced-order modeling via Krylov-subspace methods. In *Proceedings of the 14th Symposium on Mathematical Theory of Networks and Systems*. Perpignan, France, June 19–23, 2000. URL `http://cm.bell-labs.com/cm/cs/doc/00/3-02.ps.gz`.

R. W. Freund. Passive reduced-order modeling via Krylov-subspace methods. In *Proceedings of the 2000 IEEE International Symposium on Computer-Aided Control System Design*, pages 261–266. IEEE, 2000.

P. Feldmann and R. W. Freund. Method of modeling and analyzing electronic noise using Padé approximation-based model-reduction techniques. *U.S. Patent 6,135,649*, October 24, 2000.

R. W. Freund. Band Lanczos method (Section 4.6). In Z. Bai, J. Demmel, J. Dongarra, A. Ruhe, and H. van der Vorst, editors, *Templates for the Solution of Algebraic Eigenvalue Problems: A Practical Guide*, pages 80–88. SIAM, Philadelphia, 2000.

R. W. Freund. Band Lanczos method (Section 7.10). In Z. Bai, J. Demmel, J. Dongarra, A. Ruhe, and H. van der Vorst, editors, *Templates for the Solution of Algebraic Eigenvalue Problems: A Practical Guide*, pages 205–216. SIAM, Philadelphia, 2000.

R. W. Freund. Lanczos method for complex symmetric eigenproblems (Section 7.11). In Z. Bai, J. Demmel, J. Dongarra, A. Ruhe, and H. van der Vorst, editors, *Templates for the Solution of Algebraic Eigenvalue Problems: A Practical Guide*, pages 216–220. SIAM, Philadelphia, 2000.

R. W. Freund. Krylov-subspace methods for reduced-order modeling in circuit simulation. *Journal of Computational and Applied Mathematics*, 123:395–421, 2000.

Z. Bai and R. W. Freund. Eigenvalue-based characterization and test for positive realness of scalar transfer functions. *IEEE Transaction on Automatic Control*, 45:2396–2402, 2000.

R. W. Freund and F. Jarre. An extension of the positive real lemma to descriptor systems. Numerical Analysis Manuscript 00–3–09, Bell Laboratories, 2000. URL `http://cm.bell-labs.com/cm/cs/doc/00/3-09.ps.gz`.

R. W. Freund. Computation of matrix-valued formally orthogonal polynomials and applications. *Journal of Computational and Applied Mathematics*, 127:173–199, 2001.

R. W. Freund and F. Jarre. Solving the sum-of-ratios problem by an interior-point method. *Journal of Global Optimization*, 19:83–102, 2001.

Z. Bai and R. W. Freund. A partial Padé-via-Lanczos method for reduced-order modeling. *Linear Algebra and Its Applications*, 332–334:141–166, 2001.

Z. Bai and R. W. Freund. A symmetric band Lanczos process based on coupled recurrences and some applications. *SIAM Journal on Scientific Computing*, 23:542–562, 2001.

Z. Bai, P. M. Dewilde, and R. W. Freund. Reduced-order modeling. Numerical Analysis Manuscript 02–4–13, Bell Laboratories, 2002. URL `http://cm.bell-labs.com/cm/cs/doc/02/4-13.ps.gz`.

T. K. Ho, L. C. Cowsar, R. W. Freund, L. Vardapetyan, and T. R. Salamon. Modeling and simulation of control dynamics in optical transport systems. Numerical Analysis Manuscript 02–4–32, Bell Laboratories, 2002. URL `http://cm.bell-labs.com/cm/cs/doc/02/4-32.doc.gz`.

R. W. Freund. Simulation of Raman amplification. Numerical Analysis Manuscript 02–4–37, Bell Laboratories, 2002. URL `http://cm.bell-labs.com/cm/cs/doc/02/4-37.ps.gz`.

R. W. Freund. Optimal pump control of broadband Raman amplifiers via linear programming. Technical Memorandum ITD-03-44004F, Bell Laboratories, Lucent Technologies, 2003. URL `http://cm.bell-labs.com/cs/doc/03/raman_tm.pdf`.

R. W. Freund. Model reduction methods based on Krylov subspaces. *Acta Numerica*, 12:267–319, 2003.

R. W. Freund and F. Jarre. A sensitivity result for semidefinite programs. *Operations Research Letters*, 32:126–132, 2004.

R. W. Freund and F. Jarre. An extension of the positive real lemma to descriptor systems. *Optimization Methods and Software*, 18:69–87, 2004.

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