
Bibliography

- Abbas, H.M. and Fahmy, M.M. (1993). "Neural model for Karhunen-Loeve transform with application to adaptive image compression", *IEE Proceedings-I*, Vol 140, No. 2, April, pp. 135-143.
- Abe, M. and Ando, S. (1995). "Nonlinear time-frequency domain operators for decomposing sounds into loudness, pitch and timbre". *International Conference on Acoustics, Speech, and Signal Processing*, pp 1368–71 vol.2., *IEEE*; New York, NY, USA.
- Agajan, S. and Egiazarjan, K. (1987). "A new class of transformations in the theory of processing discrete signals", volume M. Tud. Akad. Szam.tech. Autom. Kut. Intez. (Hungary). *Problems of Computer Science*.
- Allen, J. B. (1977). "Short Term Spectral Analysis, Synthesis, and Modification by Discrete Time Fourier Transform.", *IEEE Acoustics, Speech and Signal Processing*, 25 (3), pp. 235-238.
- Allen, J. B., & Rabiner, L. R. (1977). "A Unified Approach to Short-Time Fourier Analysis and Synthesis", *Proceedings of the IEEE*, 65 (11), pp. 1558 - 1564.
- Amari, S., Cichocki, A., and Yang, H. H. (1996). "A New Learning Algorithm for Blind Signal Separation", In *Advances in Neural Information Processing Systems 8*, Editors D. Touretzky, M. Mozer, and M. Hasselmo, MIT Press, Cambridge MA.
- Anderson, N. and Karasalo, I. (1975). "On computing bounds for the least singular value of a triangular matrix". *BIT*, 15:1–4.
- Appleton, J.H. (1989). *21st-century musical instruments : hardware and software*. City University of New York, Brooklyn, New York.
- Association, A.S. (1960). *Acoustical Terminology*. American Standards Institute, New York.
- Aware Inc. (1993). *Speed of Sound Megadisk CD-ROM#1: Sound Effects*. Computer CD-ROM.
- Balzano, G. (1980). "The group-theoretic description of 12-fold and microtonal pitch systems". *Computer Music Journal*, 4(4):66–84.
- Baraniuk, R. (1995). "Marginals vs. covariance in joint distribution theory". *International Conference on Acoustics, Speech, and Signal Processing*, pp. 1021–4 vol.2. , *IEEE*; New York, NY, USA.
- Baraniuk, R. (1996). "Covariant time-frequency representations through unitary equivalence". *IEEE Signal Processing Letters*, 3(3):79–81.

-
- Barlow, H. (1989). "Unsupervised Learning", *Neural Computation*, 1, pp. 295-311.
- Barlow, J.L., Yoon, P.A., and Zha, H. (1996). "An algorithm and a stability theory for downdating the ULV decomposition". *BIT*, 36:14-40.
- Barlow, J.L., Zha, H., and Yoon, P.A. (1993). "Stable chasing algorithms for modifying complete and partial singular value decompositions". Tech. Report CSE-93-19, Department of Computer Science, The Pennsylvania State University, State College, PA.
- Barner, K. and Arce, G. (1997). "Design of permutation order statistic filters through group colorings". *IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing*, 44(7):531-48.
- Barth, W., Martin, R.S., and Wilkinson, J.H. (1967). "Calculation of the eigenvalues of a symmetric tridiagonal matrix by the method of bisection". *Numer. Math.*, 9:386-393.
- Bell A.J. & Sejnowski T.J. (1995). "An information-maximization approach to blind separation and blind deconvolution", *Neural Computation*, 7, 1129-1159.
- Bell A.J. & Sejnowski T.J. (1995). "Fast blind separation based on information theory", in *Proc. Intern. Symp. on Nonlinear Theory and Applications*, vol. 1, 43-47, Las Vegas.
- Bell A.J. & Sejnowski T.J. (1996). "Learning the higher-order structure of a natural sound", *Network: Computation in Neural Systems*.
- Berman, S. and Grushko, I. (1983). "The theory of discrete signal processing". *Problemy Peredachi Informatsii*, 19(4):43-9.
- Berry, M.W. (1992a). "A Fortran-m 77 software library for the sparse singular value decomposition". Tech. Report CS-92-159, University of Tennessee, Knoxville, TN.
- Berry, M.W. (1992b). "Large scale sparse singular value computations". *Internat. J. Supercomp. Appl.*, 6:13-49.
- Berry, M.W. (1993). "SVDPACKC: Version m 1.0 user's guide". Tech. Report CS-93-194, University of Tennessee, Knoxville, TN.
- Berry, M.W. and Auerbach, R.L. (1994). "A block Lanczos SVD method with adaptive reorthogonalization". In Brown, J.D., Chu, M.T., Ellison, D.C., and Plemmons, R.J., editors, *Proceedings of the Cornelius Lanczos International Centenary Conference, Raleigh, NC, Dec. 1993*, pages 329-331. SIAM, Philadelphia.
- Berry, M.W. and Golub, G.H. (1991). "Estimating the largest singular values of large sparse matrices via modified moments". *Numer. Algorithms*, 1:363-374.
- Beyerbach, D. & Nawab, H. (1991). "Principal Components Analysis of the Short-Time Fourier Transform", in *International Conference on Acoustics, Speech, and Signal Processing*, Vol. 3, "Digital Signal Processing", pp. 1725 - 1728.
- Björck, Å. and Bowie, C. (1971). "An iterative algorithm for computing the best estimate of an orthogonal matrix". *SIAM J. Numer. Anal.*, 8:358-364.
- Bluman, G. W., & Cole, J. D. (1974). *Applied Mathematical Sciences: No 13, Similarity Methods for Differential Equations*. New York: Springer-Verlag.
- Bogert, B. P., Healy, M. J., and Tukey, J. W. (1963). "The Quefrency Alanysis of Time Series for Echoes: Cepstrum, Pseudo-autocovariance, Cross-Cepstrum, and Saphe Cracking." *Proceedings of the Symposium on Time Series Analysis*, M. Rosenblatt, (Ed.), New York: Wiley.
- Boulanger, R. (1985). *The Transformation of Speech Sounds into Music using Spectral Intersection Synthesis*. PhD
-

thesis, UCSD, CARL.

- Bregman, A. (1990). *Auditory Scene Analysis*. MIT Press, Cambridge, Mass.
- Brown, G. (1992). *Computational auditory scene analysis: a representational approach*. PhD thesis, University of Sheffield.
- Bunch, J.R. and Nielsen, C.P. (1978). "Updating the singular value decomposition". *Numer. Math.*, 31:111–129.
- Businger, P. (1970). "Updating a singular value decomposition". *BIT*, 10:376–385.
- Cardoso, J.-F. (1989). "Blind identification of independent components with higher-order statistics". In *Proc. Workshop on Higher-Order Spect. Anal., Vail, Colorado*, pages 157–160.
- Cardoso, J.-F. (1990). "Eigen-structure of the fourth-order cumulant tensor with application to the blind source separation problem". In *Proc. ICASSP*, pages 2655–2658.
- Cardoso, J.-F. and Comon, P. (1990). "Tensor based independent component analysis", In *Proc. EUSIPCO*.
- Cardoso, J. F. (1995). "The equivariant approach to source separation", In *Proc. NOLTA*, pages 55–60.
- Cardoso, J. F. (1995). "A tetradic decomposition of 4th-order tensors: application to the source separation problem", In M. Moonen and B. de Moor, editors, *Algorithms, architectures and applications*, volume III of *SVD and signal processing*, pages 375–382. Elsevier.
- Casey, M. (1993). "Non-linear estimation of audio synthesis control parameters", In *Proceedings of the International Computer Music Conference*, Tokyo. ICMA.
- Casey, M. (1994). "Understanding musical sound with forward models and physical models", *Connection Science*, 6(2&3):355–371.
- Casey, M. (1996). "Multi-model estimation as a basis for computational timbre understanding", In *International Conference on Music Perception and Cognition*, Montreal.
- Casey, M. & Smaragdis, P. (1996). "NetSound", *Proceedings of the International Computer Music Conference*, ICMA, Hong Kong.
- Cassirer, E. (1944). "The Concept of Group and the Theory of Perception." *Philosophy and Phenomenological Research*. Vol. V (1), pp. 1–35.
- Chan, T.F. (1982a). "Algorithm m 581: An improved algorithm for computing the singular value decomposition". *ACM Trans. Math. Software*, 8:84–88.
- Chan, T.F. (1982b). "An improved algorithm for computing the singular value decomposition". *ACM Trans. Math. Software*, 8:72–83.
- Chan, T.F. and Hansen, P.C. (1990). "Computing truncated SVD least squares solutions by rank revealing QR factorizations". *SIAM J. Sci. Statist. Comput.*, 11:519–530.
- Chandrasekaran, S. and Ipsen, I. C.F. (1992). "Analysis of a QR algorithm for computing singular values". Tech. Report YALEU/DCS/RR-917, Yale University, New Haven, CT.
- Chandrasekaran, S. and Ipsen, I. C.F. (1994). "Backward errors for eigenvalue and singular value decompositions". *Numer. Math.*, 68:215–223.
- Charlier, J., Vanbegin, M., and Van Dooren, P. (1988). "On efficient implementations of Kogbetliantz's algorithm for computing the singular value decomposition". *Numer. Math.*, 52:279–300.

-
- Charnley, T. and Perrin, R. (1978). "Studies with an eccentric bell". *Journal of Sound and Vibration*, 58(4):517–25.
- Chemillier, M. (1987). "Free monoid and music". ii. *Informatique Theorique et Applications*, 21(4):379– 417.
- Comon, P. (1992). "MA identification using fourth order cumulants". *Signal Processing, Eurasp*, 26(3):381–388.
- Comon, P. (1994). "Independent Component Analysis, a new concept?", *Signal Processing, Elsevier*, 36(3):287–314. Special issue on Higher-Order Statistics.
- Comon, P., Jutten, C., and Herault, J. (1991). "Separation of sources, part II: Problems statement". *Signal Processing*, 24(1):11–20.
- Cooke, M. (1991). *Modeling auditory processing and organization*. PhD thesis, University of Sheffield.
- Cosi, P., DePoli, G., and Lauzzana, G. (1994). "Timbre classification by nn and auditory modeling". *Proceedings of International Conference on Artificial Neural Networks*, volume 2 vol. xvi+xiii+1482, pages 925–8 vol.2. , Springer-Verlag; Berlin, Germany.
- Courtot, F. (1991). "Representation and induction of musical structures for computer assisted composition". *European Working Session on Learning Proceedings*. Springer-Verlag; Berlin, Germany.
- Cremer, L. (1984). *The Physics of the Violin*. Cambridge, MA: MIT Press.
- Crummer, G., Walton, J., Wayman, J., Hantz, E., and Frisina, R. (1994). "Neural processing of musical timbre by musicians, nonmusicians, and musicians possessing absolute pitch". *Journal of the Acoustical Society of America*, 95(5).
- Cullum, J.K., Willoughby, R.A., and Lake, M. (1983). "A Lanczos algorithm for computing singular values and vectors of large matrices". *SIAM J. Sci. Statist. Comput.*, 4:197–215.
- Culver, C. (1956). *musical acoustics*. McGraw Hill, New York.
- Deco, G., and Obradovic, D. (1996). *An Information-Theoretic Approach to Neural Computing*. New York: Springer-Verlag.
- Delprat, N. and Kronland-Martinet, R. (1990). "Parameters estimation for nonlinear resynthesis methods with the help of a time-frequency analysis of natural sounds". *Proceedings. Sound Control; Personal Assistance; Yamaha-Kemble Music(UK); et al, ICMC; Glasgow, UK*.
- Demmel, J. and Kahan, W. (1990). "Accurate singular values of bidiagonal matrices". *SIAM J. Sci. Statist. Comput.*, 11:873–912.
- Depalle, P., Garcia, G., and Rodet, X. (1993). "Tracking of partials for additive sound synthesis using hidden markov models". *Proceedings of ICASSP '93*, pages 225–8 vol.1., IEEE; New York, NY, USA.
- Depalle, P., Garcia, G., and Rodet, X. (1995). "The recreation of a castrato voice, farinelli's voice". *Proceedings of 1995 Workshop on Applications of Single Processing to Audio and Accoustics*, IEEE; New York, NY, USA.
- DeWitt, L. and Crowder, R. (1987). "Tonal fusion of consonant musical intervals: The oomph in stumpf". *Perception and Psychophysics*, 41:73–84.
- Dolson, M. (1986). "The phase vocoder: A tutorial". *Computer Music Journal*, 10(4).
- Dongarra, J., Bunch, J.R., Moler, C.B., and Stewart, G.W. (1979). *LINPACK Users' Guide*. SIAM, Philadelphia.
- Drmac, Z. (1997). "Implementation of Jacobi rotations for accurate singular value computation in floating point arithmetic". *SIAM J. Sci. Comput.*, 18.
-

-
- Eisenstat, S.C. and Ipsen, I.C.F. (1993). "Relative perturbation techniques for singular value problems". Tech. Report YALEU/DCS/RR-942, Yale University, New Haven, CT.
- Ellis, D. (1995). "Underconstrained stochastic representations for top-down computational auditory scene analysis". *Proceedings of 1995 Workshop on Applications of Single Processing to Audio and Accoustics*, Number 284., IEEE; New York, NY, USA.
- Ellis, D. (1996). *Prediction-Driven Computation Auditory Scene Analysis*. PhD thesis, MIT.
- Feichtinger, H., Strohmer, T., and Christensen, O. (1995). "Group theoretical approach to gabor analysis". *Optical Engineering*, 34(6):1697–704.
- Feiten, B. and Gunzel, S. (1994). "Automatic indexing of a sound database using self-organizing neural nets". *Computer Music Journal*, 18(3):53–65.
- Fernando, K.V. (1989). "Linear convergence of the row cyclic Jacobi and Kogbetliantz methods". *Numer. Math.*, 56:73–91.
- Fernando, K.V. and Parlett, B.N. (1994). "Accurate singular values and differential qd algorithms". *Numer. Math.*, 67:191–229.
- Flanagan, J. and Rabiner, L. (1966). "Phase vocoder". *Bell System Technical Journal*, 45:1493–1509.
- Fletcher, N. H., & Rossing, T. D. (1991). *The Physics of Musical Instruments*. New York: Springer-Verlag.
- Freed, D. J. (1990). "Auditory correlates of perceived mallet hardness for a set of recorded percussive sound events." *Journal of the Acoustical Society of America*, 87(1), 311-322.
- Freeman, W. T., and Tenenbaum, J. B. (1997). "Learning bilinear models for two-factor problems in vision" , *IEEE Conference on Computer Vision and Pattern Recognition (CVPR '97)*, Puerto Rico, U. S. A., June.
- French, A. P. (1971). *Vibrations and waves*. New York: Norton.
- French, A. P. (1975). *Newtonian mechanics*. New York:Norton.
- Gaeta, M., & Lacoume, J. L. (1990). "Source separation without *a-priori* knowledge: The maximum likelihood solution", in Torres, Masgrau and Lagunas, (Eds.), *Proc. EUSIPCO Conf.*, Barcelona, Elsevier.
- Ganesan, K., Marlot, M., and Mehta, P. (1986). "An efficient algorithm for combining vector quantization and stochastic modeling for speaker-independent speech recognition". , *Inst. Electron. & Commun. Eng. Japan; Acoust. Soc. Japan*, pp. 1069–71 vol.2. IEEE; New York, NY, USA.
- Gaver, W. W. (1988). *Everyday Listening and Auditory Icons*. Ph.D. Dissertation, University of California, San Diego.
- Gaver, W. W. (1993). "What in the World Do We Hear? An Ecological Approach to Auditory Source Perception." *Ecol. Psych.* (5)1
- Gaver, W. W. (1994). "Using and Creating Auditory Icons." In *Auditory Display: Sonification, Audification, and Auditory Interfaces*, edited by G. Kramer. Santa Fe Institute Studies in the Sciences of Complexity, Proc. Vol. XVIII. Reading, MA: Addison Wesley.
- George, E.B. and Smith, M.J. (1992). "Analysis-by-synthesis/overlap-add sinusoidal modeling applied to the analysis and synthesis of musical tones". *Journal of the Audio Engineering Society*, 40(6):497–516.
- Gerth, J. (1993). "Identification of sounds with multiple timbres". *Proceedings of 37th Annual Meeting on the Human Factors and Ergonomics Society, Human Factors & Ergonomics Soc.* vol.1. ; Santa Monica, CA, USA.
-

-
- Giannakis, G., Inouye, Y., and Mendel, J. M. (1989). "Cumulant-based identification of multichannel moving average models", *IEEE Automatic Control*, Vol. 34, July, pp. 783-787.
- Gibson, J. J. (1966). *The Senses Considered as Perceptual Systems*. Boston:Houghton Mifflin.
- Gibson, J. J. (1979). *The Ecological Approach to Visual Perception*. Boston:Houghton Mifflin.
- Golub, G.H. (1968). "Least squares, singular values and matrix approximations". *Aplikace Matematiky*, 13:44–51.
- Golub, G.H. and Kahan, W. (1965). "Calculating the singular values and pseudo-inverse of a matrix". *SIAM J. Numer. Anal. Ser. B*, 2:205–224.
- Golub, G.H. and Luk, F.T. (1977). "Singular value decomposition: Applications and computations". In *Trans. 22nd Conference of Army Mathematicians, ARO Report 77-1*, pages 577–605.
- Golub, G.H., Luk, F.T., and Overton, M.L. (1981). "A block Lanczos method for computing the singular values and corresponding singular vectors of a matrix". *ACM Trans. Math. Software*, 7:149–169.
- Golub, G.H. and Reinsch, C. (1970). "Singular value decomposition and least squares solution". *Numer. Math.*, 14:403–420.
- Golub, G.H., Solna, K., and Van Dooren, P. (1995). "A QR-like SVD algorithm for a product/quotient of several matrices". In Moonen, M. and De Moor, B., editors, *SVD and Signal Processing, III: Algorithms, Architectures and Applications*, pages 139–147. Elsevier Science B.V., Amsterdam.
- Golub, G.H. and Van Loan, C.F. (1979). "Total least squares". In Gasser, T. and Rosenblatt, M., editors, *Smoothing Techniques for Curve Estimation*, pages 69–76. Springer-Verlag, New York.
- Golub, G.H. and Van Loan, C.F. (1980). "An analysis of the total least squares problem". *SIAM J. Numer. Anal.*, 17:883–893.
- Grey, J. (1975). *An Exploration of Musical Timbre*. PhD thesis, Stanford University Psychology Department.
- Grey, J. (1977). "Multidimensional perceptual scaling of musical timbres". *Journal of the Acoustical Society of America*, 61(5):1270–7.
- Grey, J. and Moorer, J. (1977). "Perceptual evaluations of synthesized musical instrument tones". *Journal of the Acoustical Society of America*, 62(2):454–62.
- Grey, J. (1978). "Timbre discrimination in musical patterns". *Journal of the Acoustical Society of America*, 64(2):467–72.
- Grey, J. and Gordon, J. (1978). "Perceptual effects of spectral modifications on musical timbres". *Journal of the Acoustical Society of America*, 63(5):1493–500.
- Griffin, D., and Lim, J. S. (1984). "Signal Estimation from Modified Short-Time Fourier Transform", *IEEE Transactions on Acoustics, Speech, and Signal Processing*, Vol. ASSP-32, pp. 236-243.
- Gu, M. and Eisenstat, S.C. (1992). "A divide-and-conquer algorithm for the bidiagonal SVD". Tech. Report YALEU/DCS/RR-933, Department of Computer Science, Yale University, New Haven, CT.
- Gu, M. and Eisenstat, S.C. (1993). "A stable and fast algorithm for updating the singular value decomposition". Tech. Report YALEU/DCS/RR-966, Department of Computer Science, Yale University, New Haven, CT.
- Guillemain, P. and Kronland-Martinet, R. (1996). "Characterization of acoustic signals through continuous linear time-frequency representations". *Proceedings of the IEEE*, 84(4):561–85.
- Hansen, P.C. (1987). "The truncated SVD as a method for regularization". *BIT*, 27:534–553.
-

-
- Hansen, P.C. (1990a). "Relations between SVD and GSVD of discrete regularization problems in standard and general form". *Linear Algebra Appl.*, 141:165–176.
- Hansen, P.C. (1990b). "Truncated singular value decomposition solutions to discrete ill-posed problems with ill-determined numerical rank". *SIAM J. Sci. Statist. Comput.*, 11:503–518.
- Helmholtz, H. L. F. (1954). *On the sensations of tone as a psychological basis for the theory of music*. (A. J. Ellis, Trans.) New York: Dover. (Original work published 1885).
- Hotelling, H. (1933). "Analysis of a Complex of Statistical Variables in Principal Components", *Journal of Educational Psychology*, Vol. 24, pp. 417-441.
- Howard, S. and Sirianunpiboon, S. (1996). "Wavelet coefficients, quadrature mirror filters and the group $so(4)$ ". *Proceedings of Third International Symposium on Time- Frequency and Time-Scale Analysis (TFTS-96)*, IEEE; New York, NY, USA.
- Huron, D. (1991). "Tonal consonance versus tonal fusion in polyphonic sonorities". *Music Perception*, 9(2):135–154.
- Irino, T. and Patterson, R. (1994). "A theory of asymmetric intensity enhancement around acoustic transients". *Proceedings of 1994 International Conference on Spoken Language Processing, Acoustical Soc. Japan*; Tokyo, Japan.
- Iverson, P. and Krumhansl, C. (1993). "Isolating the dynamic attributes of musical timbre". *Journal of the Acoustical Society of America*, 94(5):2595–603.
- Jenkins, J. J. (1985). "Acoustic information for objects, places, and events." In W. H. Warren & R. E. Shaw (Eds.), *Persistence and change: Proceedings of the First International Conference on Event Perception*. pp 115-138, Hillsdale, NJ: Lawrence Erlbaum Associates.
- Johansson, G. (1958). "Rigidity, stability and motion in perceptual space. *Acta Psychology*, 14, 359-370.
- Johansson, G. (1973). "Visual perception of biological motion and a model for its analysis." *Perception and Psychophysics*, 14, 201-211.
- Jordan, M. and Rumelhart, D. (1992). "Forward models: Supervised learning with a distal teacher". *Cognitive Science*, 16.
- Jutten, C. & Herault, J. (1991). "Blind separation of sources, Part I: An adaptive algorithm based on neuromimetic architecture", *Signal Processing*, Vol. 24, No. 1, pp. 1-10.
- Karplus, K., and Strong, A. (1983). "Digital Synthesis of Plucked String and Drum Timbres". *Computer Music Journal*. 2(7):43-55.
- Kanetkar, S. and Wagh, M. "Group character tables in discrete transform theory". *Journal of Computer and System Sciences*, 19(3):211–21.
- Kistler, D., & Wightman, F. L. (1992). "A Model of Head-Related Transfer Functions Based on Principal Components", *Journal of the Acoustical Society of America*, Vol. 91, pp. 1637 - 1647.
- Klein et al (1970). "Vowel Spectra, Vowel Spaces and Vowel Identification", *Journal of the Acoustical Society of America*, 48, pg999-1009.
- Kramer, H.P. and Mathews, M.V. (1956). "A Linear Coding for Transmitting a Set of Correlated Signals", *IRE Transactions Information Theory*, IT-2, 41-46.
- Kruskal, J. (1964a). "Multidimensional scaling by optimizing goodness of fit to a nonmetric hypothesis". *Psychometrika*, 29.
-

-
- Kruskal, J. (1964b). "Nonmetric multidimensional scaling: A numerical method". *Psychometrika*, 29.
- Lacoume, J. L., & Ruiz, P. (1989). "Extraction of independent components from correlated inputs, A solution based on cumulants", *Proceedings of the Workshop on Higher-Order Spectral Analysis*, Vail, Colorado, June, pp. 146 - 151.
- Lansky, P. and Steiglitz, K. (1981). "Synthesis of timbral families by warped linear prediction". *Computer Music Journal*, 5(3).
- Laroche, J. and Meillier, J.-L. (1993). "A simplified source/filter model for percussive sounds". *Proceedings of IEEE Workshop on Applications of Signal Processing to Audio and Acoustics*, IEEE; New York, NY, USA.
- Laroche, J. and Meillier, J.-L. (1994). "Multichannel excitation/filter modeling of percussive sounds with application to the piano". *IEEE Transactions on Speech and Audio Processing*, 2(2):329-44.
- Laughlin, R., Truax, B., and Funt, B. (1990). "Synthesis of acoustic timbres using principal component analysis". *Proceedings ICMC*; Glasgow, UK.
- Lee, M., Freed, A., and Wessel, D. (1992). "Neural networks for simultaneous classification and parameter estimation in musical instrument control". In *Int. Soc. Opt. Eng.. Adaptive and Learning Systems*.
- Lee, M. and Wessel, D. (1992). "Connectionist models for real-time control of synthesis and compositional algorithms". *Proceedings of the International Computer Music Conference*.
- Legitimus, D. and Schwab, L. (1990). "Natural underwater sounds identification by the use of neural networks and linear techniques". In *Proceedings of the International Neural Network Conference*, volume 2 vol. xlii+1098, pages 123-6 vol.1. Thomsom; SUN; British Comput. Soc.; et al, Kluwer; Dordrecht, Netherlands.
- Legitimus, D. and Schwab, L. (1991). "Experimental comparison between neural networks and classical techniques of classification applied to natural underwater transients identification". *IEEE*; New York, NY, USA.
- Lenz, R. (1989). "Group-theoretical model of feature extraction". *Journal of the Optical Society of America A (Optics and Image Science)*, 6(6):827-34.
- Liu, Y. and Popplestone, R. (1994). "A group theoretic formalization of surface contact". *International Journal of Robotics Research*, 13(2):148-61.
- Loeliger, H.-A. (1991). "Signal sets matched to groups". *IEEE Transactions on Information Theory*, 37(6):1675-82.
- Mace, W. M. (1977). "James Gibson's strategy for perceiving: Ask not what's inside your head, but what your head is inside of." In *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*, R. E. Shaw & Bransford (Eds.), pp. 43-65. Hillsdale, NJ: Erlbaum.
- Makhoul, J. (1975). "Linear prediction: A tutorial review". *Proceedings of the IEEE*, 63:561-580.
- Mathews, M. (1969). *The technology of computer music*. MIT Press, Cambridge, Mass.
- McAulay, R. and Quatieri, T. (1986). "Speech analysis/synthesis based on a sinusoidal representation". *IEEE Tr. ASSP*.
- McIntyre, M. E., Schumacher, R. T., & Woodhouse, J. (1983). "On the Oscillations of Musical Instruments." *Journal of the Acoustical Society of America*, 74:1325-1345.
- Mellinger, D. (1991). *Event formation in musical sound*. PhD thesis, Stanford University.
- Miller, D. (1926). *The Science of Musical Sounds*. Mac Millan, New York.
- Moon, T. (1996). "Similarity methods in signal processing". *IEEE Transactions on Signal Processing*, 44(4):827- 33.
-

-
- Moorer, J.A. (1978). "The use of the phase vocoder in computer music". *Journal of the Audio Engineering Society*, 24(9):717-727.
- Mott, R. L. (1990). *Sound effects: Radio, TV, and film*. London: Focal Press.
- Naparst, H. (1991). "Dense target signal processing". *IEEE Transactions on Information Theory*, 37(2):317-27.
- Ney, H. (1990). "The use of a one-stage dynamic programming algorithm for connected word recognition". In Weibel, A. and Lee, K.-F., editors, *Readings in Speech Recognition*. Morgan Kaufmann Publishers.
- Oja, E. (1982). "A Simplified Neuron Model as a Principal Component Analyzer", *J. Math. Biology*, 1, 267.
- Oja, E., Karhunen, J., Wang, L., and Vigario, R. (1995). "Principal and independent components in neural networks - recent developments". *Proc. VII Italian Workshop on Neural Nets WIRN'95*, May 18 - 20, Vietri sul Mare, Italy.
- Oja, E. (1995). *The nonlinear PCA learning rule and signal separation - mathematical analysis*. Helsinki University of Technology, Laboratory of Computer and Information Science, Report A26.
- Oppenheim, A.V. (1989). *Discrete-Time Signal Processing*. Prentice Hall, Englewood Cliffs, New Jersey.
- Palazzo, R., J., Interlando, J., and deAlmeida, C. (1994). "Construction of signal sets matched to abelian and non-abelian groups". *IEEE International Symposium on Information Theory*, IEEE; New York, NY, USA.
- Paul, J., Kilgore, E., and Klinger, A. (1988). "New algorithms for automated symmetry recognition". *SPIE - Int. Soc. Opt. Eng.* (USA). Intelligent Robots and Computer Vision. Sixth in a Series.
- Pentland, A. and Turk, M. (1991). "Eigenfaces for recognition". *Journal of Cognitive Neuroscience*, 3(1).
- Plomp, R. and van de Geer (1967). "Dimensional Analysis of Vowel Spectra", *Journal of the Acoustical Society of America*, 41(3), p707-712.
- Plomp, R. (1970). "Timbre as a multidimensional attribute of complex tones". In Plomp, R. and Smoorenburn, G.G., editors, *Frequency Analysis and Periodicity Detection in Hearing*. A.W. Sijthoff, Leiden.
- Portnoff, M. R. (1981). "Time-Scale Modification of Speech Based on Short-Time Fourier Analysis", *IEEE Transactions on Acoustics, Speech and Signal Processing* ASSP-29(3), pp. 374-390.
- Puckette, M. and Brown, J. (1992). "An efficient algorithm for the calculation of a constant-q transform". *Acoustical Society of America*.
- Pyt'ev, Y. (1971). "Signal preprocessor algorithm for recognition systems with similarity generalization". *Kibernetika*, 7(2):23-31.
- Quatieri, T. and McAulay, R. (1989). "Phase coherence in speech reconstruction for enhancement and coding applications". In *ICASSP-89: 1989 International Conference on Acoustics, Speech and Signal Processing*, volume 4 vol. 2833, pages 207-10 vol.1. IEEE, IEEE; New York, NY, USA.
- Rabiner, L. and Schafer, R. (1978). *Digital Processing of Speech Signals*. Prentice Hall, Englewood Cliffs, New Jersey.
- Rayleigh, Lord (1894). *The Theory of Sound*. Vol. 1, New York: Macmillan. (Reprinted by Dover, New York, 1945.)
- Richardson, F. (1954). "The transient tones of wind instruments". *Journal of the Acoustical Society of America*, 26:960-962.
- Richman, M., Parks, T., and Shenoy, R. (1995). "Discrete-time, discrete-frequency time-frequency representations".
-

- Richman, M., Parks, T., and Shenoy, R. (1996). "Features of a discrete wigner distribution". *IEEE Digital Signal Processing Workshop Proceedings*, IEEE; New York, NY, USA.
- Risset, J. (1966). *Computer study of trumpet tones*. Bell Labs Technical Report.
- Risset, J. (1971). "Paradoxes de hauteur". In *Proceedings of the 7th international congress of Acoustics*, Budapest.
- Risset, J. and Mathews, M. (1969). "Analysis of musical instrument tones". *Physics Today*, 22(2).
- Risset, J. and Wessel, D. (1982). "Exploration of timbre by analysis and synthesis". In Deutsch, D., editor, *The Psychology of Music*, pages 26–58. Academic Press, New York.
- Roads, C. and Strawn, J. (1987). *Foundations of Computer Music*. MIT Press, Cambridge, Mass.
- Rockmore, D. (1995). "Fast fourier transforms for wreath products". *Applied and Computational Harmonic Analysis*, 2(3):279–92.
- Rodet, X. (1996). "Recent developments in computer sound analysis and synthesis". *Computer Music Journal*, 20(1):57–61.
- Rosch, E. (1975). "Cognitive reference points". *Cognitive Psychology*, 7:532–547.
- Runeson, S. (1977). "On the possibility of smart perceptual mechanisms". *Scandinavian Journal of Psychology*, 18, pp. 172 - 179.
- Saint-Arnaud, N. (1995a). *Classification of Sound Textures*. MIT Media Laboratory Masters Thesis, Cambridge, MA.
- Saint-Arnaud, N. (1995b). "Sound texture resynthesis". In *Proceedings of the International Joint Conference on Artificial Intelligence*, Montreal. IJCAI.
- Sandell, G. and Martens, W. (1995). "Perceptual evaluation of principal-component-based synthesis of musical timbres". *Journal of the Audio Engineering Society*, 43(12):1013–28.
- Sayeed, A. and Jones, D. (1996). "Equivalence of generalized joint signal representations of arbitrary variables". *IEEE Transactions on Signal Processing*, 44(12):2959–70.
- Schaeffer, P. (1966) *Traite des objets musicaux*. Paris: Seuil.
- Schubert, E. D. (1974). "The role of auditory perception in language processing". In *Reading, Perception and Language*. D. D. Duane & M. B. Rawson (Eds.), pp. 97-130, Baltimore: York Press.
- Serra, X. and Smith, J. (1990a). "Spectral modeling synthesis: a sound analysis/synthesis system based on a deterministic plus stochastic decomposition". *Computer Music Journal*, 14(4):12–24.
- Serra, X. and Smith, J. (1990b). "A system for sound analysis/transformation/synthesis based on a deterministic plus stochastic decomposition". In *Proceedings of the Fifth European Signal Processing Conference*. Elsevier; Amsterdam, Netherlands.
- Setayeshi, S. and El-Hawary, F. (1994). "Neural network based signal prediction and parameter estimation for under-water layered media systems identification". *Proceedings of Canadian Conference on Electrical and Computer Engineering*, IEEE; New York, NY, USA.
- Settel, Z. and Lippe, C. (1995). "Real-time musical applications using frequency domain signal processing". In *Proceedings of 1995 Workshop on Applications of Signal Processing to Audio and Acoustics*, number 284. IEEE; New York, NY, USA.

-
- Shaw, R. E., McIntyre, M., & Mace, W. M. (1974). "The role of symmetry in event perception." In MacLeod, R. B. & Pick, H. (Eds.), *Perception: Essays in honour of James J. Gibson*. Ithica: Cornell University Press.
- Shaw, R. E., & Pittenger, J. B. (1978). "Perceiving change." In H. Pick and E. Slatzman (Eds.), *Modes of Perceiving and Processing Information*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Slaney, M., Covell, M., and Lassiter, B. (1996). "Automatic audio morphing". In *International Conference on Acoustics, Speech and Singnal Processing*, Atlanta, May.
- Slawson, W. (1968). "Vowel quality and musical timbre as functions of spectrum envelope and fundamental frequency. *Journal of the Acoustical Society of America*. 43, 87-101.
- Smalley, D. (1986). "Spectromorphology and Structuring Process". In Emmerson, S. (Ed.). *The Language of Electroacoustic Music*. London: Macmillan.
- Smaragdis, P. (1997). *Information Theoretic Approaches to Source Separation*, Masters Thesis, MAS Department, Massachusetts Institute of Technology.
- Smaragdis, P. (1997). "Efficient Blind Separation of Convolved Sound Mixtures", *IEEE ASSP Workshop on Applications of Signal Processing to Audio and Acoustics*. New Paltz NY, October 1997.
- Smaragdis, P. (1998). "Blind Separation of Convolved Mixtures in the Frequency Domain". *International Workshop on Independence & Artificial Neural Networks* University of La Laguna, Tenerife, Spain, February 9 - 10, 1998.
- Smith, J. O. (1990). "Efficient Yet Accurate Models for Strings and Air Columns Using Sparse Lumping of Distributed Losses and Dispersion." In *Proceedings of the Colloquium on Physical Modeling*.
- Smith, J. O. (1992). "Physical modeling using digital waveguides". *Computer Music Journal*, 16:74-87.
- Snell, J. (1983). "Lucasfilm audio signal processor and music instrument". In *IEEE Electronics Conventions; LA*.
- Stankovic, R. and Stankovic, M. (1994). "Group theoretic models of linear systems: a common look at continuous, discrete and digital systems". *Proceedings of Third International Conference on Systems Integration*, IEEE Comput. Soc. Press; Los Alamitos, CA, USA.
- Stapleton, J. C., & Bass, S. (1988). "Synthesis of Music Tones Based on the Karhunen-Loeve Transform", *IEEE Transactions on Acoustics, Speech, and Signal Processing*, Vol. 36, pp. 305-319.
- Stautner, J. P. (1983). "Analysis and Synthesis of Music Using the Auditory Transform", Master's Thesis, MIT EECS Department, Cambridge, MA.
- Stockham, T. G., Cannon, T. M., and Ingebreetsen, R. B. (1975). "Blind Deconvolution Through Digital Signal Processing", *Proceedings of the IEEE*, Vol. 63, pp. 678-692.
- Tellman, E., Haken, L., and Holloway, B. (1995). "Timbre morphing of sounds with unequal numbers of features". *Journal of the Audio Engineering Society*, 43(9):678-89.
- Tenenbaum, J. B., and Freeman, W. T. (1997). "Separating Style and Content", in *Advances in Neural Information Processing Systems 9*, M. C. Mozer, M. I. Jordan and T. Petsche, (Eds.), Morgan Kaufmann, San Mateo.
- Tenney, J. (1965). The physical correlates of timbre. *Gravesaner Blaetter*, 26:106-109.
- Therrien, C.W. (1989). *Decision Estimation and Classification*. John Wiley & Sons, New York, NY.
- Therrien, C., Cristi, R., and Allison, D. (1994). "Methods for acoustic data synthesis". *Proceedings of IEEE 6th Digital Signal Processing Workshop*, IEEE; New York, NY, USA.
-

-
- Thiele, C. and Villemoes, L. (1996). "A fast algorithm for adapted time-frequency tilings". *Applied and Computational Harmonic Analysis*, 3(2):91–9.
- Toiviainen, P., Kaipainen, M., and Louhivuori, J. (1995). "Musical timbre: similarity ratings correlate with computational feature space distances". *Journal of New Music Research*, 24(3):282–98.
- VanDerveer, N. J. (1979). "Ecological acoustics: Human perception of environmental sounds." *Dissertation Abstracts International*, 40, 4543B. (University Microfilms No. 80-04,002)
- Vishnevetskii, A. (1990). "Fast group-theoretical transform (signal convolution)". *Problemy Peredachi Informatsii*, 26(1):104–7.
- Wang, K. and Shamma, S. (1995). "Auditory analysis of spectro-temporal information in acoustic signals". *IEEE Engineering in Medicine and Biology Magazine*, 14(2):186–94.
- Warren, W., & Shaw, R. E., (1985). "Events and encounters as units of analysis for ecological psychology." In W. H. Warren & R. E. Shaw (Eds.), *Persistence and change: Proceedings of the First International Conference on Event Perception*. (pp 1-27). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Warren, W. and Verbrugge, R. (1988). "Auditory perception of breaking and bouncing events". In Richards, W., editor, *Natural Computation*. MIT Press, Cambridge, Mass.
- Waters, R., Anderson, D., Barrus, J., Brogan, D., Casey, M., McKeown, S., Nitta, T., Sterns, I., and Yerazunis, W. (1997). "Diamond park and spline: Social virtual reality with 3d animation, spoken interaction, and runtime extendability". *Presence*.
- Weisburn, B. and Shenoy, R. (1996). "Time-frequency strip filters". *IEEE International Conference on Acoustics, Speech, and Signal Processing Conference Proceedings*, IEEE; New York, NY, USA.
- Weiss, L. (1996). "Time-varying system characterization for wideband input signals". *Signal Processing*, 55(3):295–304.
- Wessel, D. (1973). "Psychoacoustics and music". *Bulletin of the Computer Arts Society*, 30:1–2.
- Wessel, D. (1979). "Timbre space as a musical control structure". *Computer Music Journal*.
- Wildes, R., & Richards, W. (1988). "Recovering material properties from sound." In W. Richards (Ed.), *Natural Computation* (pp. 356-363). Cambridge, MA: MIT Press.
- Winham, G., & Steiglitz, K. (1970). "Input Generators for Digital Sound Synthesis", *Journal of the Acoustical Society of America* 47 2:ii, pp. 665-666.
- Woodard, J. (1992). "Modeling and classification of natural sounds by product code hidden markov models". *IEEE Transactions on Signal Processing*, 40(7):1833–5.
- Yilmaz, H. (1967a). "Perceptual invariance and the psychophysical law", *Perception and Psychophysics*, Vol. 2(11), 533-538.
- Yilmaz, H. (1967b). "A Theory of Speech Perception", *Bulletin of Mathematical Biophysics*, Vol. 29, 793-824.
- Yilmaz, H. (1968). "A Theory of Speech Perception II", *Bulletin of Mathematical Biophysics*, Vol. 30, 455-479.
- Zahorian S.A. and Rothenburg, M. (1981). "Principal Components analysis for low-redundancy encoding of speech spectra", *Journal of the Acoustical Society of America*, 69(3), 832-845.
-