

CSSIP Publications: July 1999 - June 2000

Refereed Journal Papers - Appeared

1. Abed-Meraim K, Attallah S, Chkief A and Hua Y,
Orthogonal OJA algorithm,
IEEE Signal Processing Letters,
Vol 7, No 5, May 2000.
2. Abed-Meraim K, Chkeif A and Hua Y,
Fast orthonormal PAST algorithm,
IEEE Signal Processing Letters,
Vol 7, No 3, pp 60-62, Mar 2000.
3. Challa S and Bar-Shalom Y,
Nonlinear filtering using Fokker-Planck-Kolmogorov probability density evolutions,
IEEE Transactions on Aerospace and Electronic Systems,
Vol 36, No 1, pp 309-315, Jan 2000.
4. Challa S, Bar-Shalom Y and Krishnamurthy V,
Nonlinear filtering via Generalized Edgeworth series and Gauss- Hermite Quadrature,
IEEE Transactions on Signal Processing,
Vol 48, No 6, pp 1816-1820, Jun 2000.
5. Chkeif A, Abed-Meraim K, Kaleh GK and Hua Y,
Spatial-temporal blind adaptive multiuser detection,
IEEE Transactions on Communications,
Vol 48, No 5, May 2000.
6. Elliott RJ, Krishnamurthy V and Poor HV,
Exact filters for certain moments and stochastic integrals of the state of systems with Benes nonlinearity,

IEEE Transactions in Auto Control,
Vol 44, No 10, pp 1929-1933, Oct 1999.

7. Evans JS and Evans RJ,
Image-enhanced multiple model tracking,
Automatica,
Vol 35, No 11, pp 1769-1786, Nov 1999.
8. Evans JS and Krishnamurthy V,
Hidden Markov model signal processing over packet switched networks,
IEEE Transactions on Signal Processing,
Vol 47, No 8, pp 2157-2166, Aug 1999.
9. Hua Y and Nikpour M,
Computing the reduced rank Wiener filter by IQMD,
IEEE Signal Processing Letters,
Vol 6, pp 240-242, Sep 1999.
10. Hua Y, Xiang Y, Chen T, Abed-Meraim, K and Miao Y,
A new look at the power method for fast subspace tracking,
Digital Signal Processing,
Vol 9, No 4, pp 297-314, Oct 1999.
11. Johnston LA and Krishnamurthy V,
Finite dimensional smoothers for MAP state estimation of bilinear systems,
IEEE Transactions on Signal Processing,
Vol 47, No 9, pp 2444-2459, Sep 1999.
12. Johnston LA and Krishnamurthy V,
Hidden Markov model algorithms for narrowband interference suppression in CDMA spread spectrum systems,
Signal Processing,
Vol 79, No 3, pp 315-324, 1999.

13. Krishnamurthy V,
Averaged stochastic gradient algorithms for adaptive blind multiuser detection in DS/CDMA systems,
IEEE Transactions on Communications,
Vol 48, No 1, 11p, Jan 2000.
14. Krishnamurthy V and Poor HV,
State encoding of hidden Markov linear prediction models,
Journal of Communications and Networks,
Vol 1, No 3, pp 153-157, Sep 1999.
15. Logothetis A and Krishnamurthy V,
Expectation maximization algorithms for MAP estimation of jump Markov linear systems,
IEEE Transactions on Signal Processing,
Vol 47, No 8, pp 2139-2156, Aug 1999.
16. Manton JH and Hua Y,
A frequency domain deterministic approach to channel identification,
IEEE Signal Processing Letters,
Vol 6, No 12, pp 323-326, Dec 1999.
17. Manton JH and Hua Y,
Rank reduction and James-Stein estimation,
IEEE Transactions on Signal Processing,
Vol 47, No 11, pp 3121-3125, Nov 1999.
18. Manton JH, Krishnamurthy V and Elliott RJ,
Discrete time filter for a doubly stochastic Poisson process,
International Journal of Adaptive Control and Signal Processing,
Vol 13, No 5, pp 393-416, Aug 1999.
19. Orsi RJ, Moore JB and Mahony RE,
Spectrum estimation of interleaved pulse trains,
IEEE Transactions on Signal Processing,

Vol 47, No 6, pp 1646-1653, June 1999.

20. Pham M, Hua Y and Gray N,
Imaging the solidification of molten metal by eddy currents - Part I,
Inverse Problems, Institute of Physics,
Vol 16, pp 483-494, Apr 2000.
21. Pham M, Hua Y and Gray N,
Imaging the solidification of molten metal by eddy currents - Part II,
Inverse Problems, Institute of Physics,
Vol 16, pp 469-482, Apr 2000.

Refereed Journal Papers - Accepted

1. Abed-Meraim K, Xiang Y, Manton JH and Hua Y,
Blind source separation using second-order cyclostationary statistics,
IEEE Transactions on Signal Processing,
accepted 2000.
2. Cheng Q, Hua Y and Stoica P,
Asymptotical performance of optimal gain and phase estimation of sensor arrays,
IEEE Transactions on Signal Processing,
accepted July 1999.
3. Dogancay K and Krishnamurthy V,
Application of extreme Value theory to level estimation in nonlinearly distorted hidden Markov models,
IEEE Transactions on Signal Processing,
to appear 2000.
4. Doucet A, Gordon NJ and Krishnamurthy V,
Particle filters for state estimation of Jump Markov linear systems,

IEEE Transactions Signal Processing,
to appear 2000.

5. Doucet A, Logothetis A and Krishnamurthy V,
Stochastic sampling algorithms for state estimation of jump Markov linear systems,
IEEE Transactions on Automatic Control,
to appear 2000.
6. Elliott RJ, Krishnamurthy V and Poor HV,
A filtered EM algorithm for maximum likelihood estimation Benes nonlinear systems,
Stochastic Processes and their Applications,
accepted 2000.
7. Krishnamurthy V and Yin G,
Adaptive step size algorithms for blind interference suppression in DS/CDMA systems,
IEEE Transactions on Signal Processing,
accepted 1999.
8. Rajagopal R, Chakka V and Challa S,
DOA estimation and tracking of passive targets - a subspace based approach,
Signal Processing Journal,
to appear 2001.
9. Zhu C, Po L-M and Hua Y,
Optimized feature map finite-state vector quantization for image coding,
IEEE Vision, Image and Signal Processing,
accepted Jan 2000.

Refereed Conference Papers - Appeared

1. Abed-Meraim K, Hua Y and Leyman AR,

Efficient maximum likelihood solutions for blind system identification,

Proceedings of the International Conference in Telecommunications (ICT),
Korea, Dec 1999.

2. Abed-Meraim K, Xiang Y and Hua Y,
Generalised second order identifiability condition and relevant testing technique,
Proceedings of the IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP'00),
CD-ROM, 1825, 4p, Istanbul, Turkey, Jun 2000.
3. Abed-Meraim K, Xiang Y, Manton JH and Hua Y,
A new approach to blind separation of cyclostationary sources,
Proceedings of the 2nd IEEE Workshop on Signal Processing Advances in Wireless Communications, (SPAWC'99),
pp 114-117, Annapolis, Maryland, USA, May 1999.
4. Challa S, Bar-Shalom Y and Krishnamurthy V,
Nonlinear filtering using Gauss-Hermite quadrature and generalised Edgeworth series,
Proceedings of the 1999 American Control Conference (ACC'99),
San Diego, California, USA, Jun 1999.
5. Challa S and Pulford GW,
Non-cooperative target classification and tracking,
Proceedings of the 1999. American Control Conference (ACC'99),
pp 2422-2423, San Diego, California, USA, Jun 1999.
6. Gao S and Collings I,
Delay processing vs per survivor techniques for equalization with fading channels,
Proceedings of the Global Telecommunications Conference (GLOBECOM'99),
pp 2306-2310, Rio de Janeiro, Brazil, Dec 1999.
7. Hua Y,
Searching beyond SVD for rank reduction,
Proceedings of the IEEE Workshop on Sensor Array and Multichannel Signal Processing,
Cambridge, Massachusetts, USA, Mar 2000.

8. Hua, Y, Xiang Y and Abed-Meraim K,
Blind identification of colored signals distorted by FIR channels,
Proceedings of the IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP'00),
CD-ROM, 711, 4p, Istanbul, Turkey, Jun 2000.
9. Hua Y, Xiang Y, Chen T, Abed-Meraim K and Miao Y,
Natural power method for fast subspace tracking, Neural Networks for Signal Processing IX,
Proceedings of the 1999 IEEE Signal Processing Society Workshop,
pp 176-185, Madison, Wisconsin, USA, Aug 1999.
10. Johnston LA, Carlemalm C and Logothetis A,
A modal approach to time delay estimation in asynchronous CDMA systems,
Proceedings of the 6th Canadian Workshop on Information Theory,
pp 91-94, Kingston, Ontario, Canada, Jun 1999.
11. Johnston LA and Krishnamurthy V,
On the equivalence of the extended Kalman smoother and the expectation maximization algorithm,
Proceedings of the 14th Triennial World Congress of International Federation of Automatic Control (IFAC'99),
Vol H, pp 145-150, Beijing, P.R. China, Jul 1999.
12. Johnston LA and Krishnamurthy V,
Performance analysis of a track before detect dynamic programming algorithm,
Proceedings of the IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP'00),
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13. Krishnamurthy V, Mickova J and Evans RJ,
Beam scheduling for electronically scanned array tracking systems using multi-arm bandits,
Proceedings of the 38th IEEE Conference on Decision and Control (CDC'99),
pp 1039-1044, Phoenix, Arizona, Dec 1999.
14. Krishnamurthy V and Yin G,
Adaptive step size blind multi-user detection,
Proceedings of the 38th IEEE Conference on Decision and Control (CDC'99),

pp 151-156, Phoenix, Arizona, Dec 1999.

15. Krishnamurthy V and Yin G,
Stochastic approximations for recursive estimation of jump Markov AR processes,
Proceedings of the 14th Triennial World Congress of International Federation of Automatic Control (IFAC'99),
Vol H, pp 403-408, Beijing, P.R.China, Jul 1999.
16. Manton JH and Hua Y,
Frequency domain subspace algorithms for channel identification,
Proceedings of the 2nd International Conference on Information, Communications and Signal Processing,
CDROM only, Singapore, Dec 1999.
17. Manton JH and Hua Y,
Maximum-likelihood algorithms for deterministic and semi-blind channel identification,
Proceedings of the 2nd International Conference on Information, Communications and Signal Processing,
CDROM only, Singapore, Dec 1999.
18. Manton JH, Mareels IMY and Hua Y,
Affine precoders for reliable communications,
Proceedings of the IEEE International Conference on Acoustic, Speech and Signal Processing (ICASSP'00),
CD-ROM, 2460, 4p, Istanbul, Turkey, Jun 2000.
19. Manton JH, Neumann WD, Norbury PY and Hua Y,
On the global identifiability of channel identification problems,
Proceedings of the 2nd International Conference on Information, Communications and Signal Processing,
CDROM only, Singapore, Dec 1999.
20. Polderman JW and Mareels IMY,
High gain adaptive control revisited: First and second order case,
Proceedings of the 38th IEEE Conference on Decision and Control (CDC'99),
pp 3329-3333, Phoenix, Arizona, Dec 1999.
21. Wang X, Challa S and Pulford GW,

Target tracking and classification using radar and ESM sensors,

Proceedings of the 8th International Aerospace Congress (IAC'99),
CD ROM only, 16p, Adelaide, Australia, Sep 1999.

22. Wendt C, Weyer E, Mareels IMY and Fenton J,
Soft sensor for flow measurement: Models from data,
Proceedings of the 1999 USCID Workshop: Modernization of Irrigation Water Delivery Systems,
pp 681-693, Phoenix, Arizona, USA, Oct 1999.
23. Weyer E,
System identification of an open water channel,
Proceedings of the 12th IFAC Symposium on System Identification,
Paper WeMD4-3, Santa Barbara, California, USA, Jun 2000.
24. Weyer E, Mareels IMY, Fenton J and Aughton D,
Advanced management and control of water networks,
Proceedings of the Xth World Water Congress,
Melbourne, Australia, Mar 2000.
25. Zhu C and Hua Y,
Vector quantization with minimax L-infinity distortion for image coding,
Proceedings of the IEEE International Conference on Image Processing,
Kobe, Japan, Oct 1999.

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1. Challa S and Bergman N,
Target tracking incorporating flight envelope information,
3rd International Conference on Information Fusion,
FUSION 2000, Paris, France, to appear Jul 2000.

2. Clarkson IVL,
An algorithm to compute a nearest point in the lattice A^n ,
13th AAECC Symposium on Applied Algebra, Algebraic Algorithms and Error-correcting Codes,
to appear Nov 2000.
3. Hua Y and Xiang Y,
The bid for blind equalization of FIR MIMO channels,
IEEE Workshop on Neural Networks for Signal Processing, Sydney, Australia,
to appear Dec 2000.
4. Manton JH, Groves JRJ and Hua Y,
On properties of the solutions of systems of polynomial equations,
3rd Asian Control Conference (ASCC'00), Shanghai, P.R. China,
to appear Jul 2000.
5. Manton JH and Hua Y,
A frequency domain approach to the design of linear precoders for quasi-stationary channels,
7th IEEE International Conference on Communications Systems, Singapore,
to appear Nov 2000.
6. Manton JH and Hua Y,
A multi-dimensional subspace method for identifying SISO-FIR and SISO-ARMA channels without statistical information,
7th IEEE International Conference on Communications Systems, Singapore,
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7. Manton JH and Hua Y,
A time domain approach to the design of linear precoders for time varying channels,
7th IEEE International Conference on Communications Systems, Singapore,
to appear Nov 2000.
8. Manton JH, Xie L and Hua Y,
An LMI algorithm for finding the optimal H-infinity equaliser,
7th IEEE International Conference on Communications Systems, Singapore,

to appear Nov 2000.

9. Nikpour M, Ali H, Manton JH and Hua Y,
A fast on-line algorithm for computing reduced-rank Weiner filters,
IEEE Workshop on Neural Networks for Signal Processing, Sydney, Australia,
to appear Dec 2000.

Commercial-in-confidence Reports - Appeared

1. Challa S and Pulford GW,
Comparison of two techniques for joint tracking and classification using radar and ESM sensors,
Report to DSTO (SSD), CSSIP & The University of Melbourne,
30pp, Aug 1999.
2. Challa S and Pulford GW,
Multi-sensor data fusion for air picture compilation - Survey and techniques,
Report to DSTO (SSD), CSSIP & The University of Melbourne,
34pp, Aug 1999.
3. Challa S and Pulford GW,
Sensor report generation and tracking for the air picture compilation problem,
Report to DSTO (SSD), CSSIP & The University of Melbourne,
38pp, Dec 1999.

Commercial-in-confidence Reports - To Appear

1. Challa S and Arulampalam S,
Manoeuvring target tracking incorporating hard constraint information,

Report to DSTO (SSD), Tracking & Data Fusion Laboratory, CSSIP & The University of Melbourne,
16pp, Jul 2000.

2. Djukic D,

Air picture compilation test-bed users manual and APC test-bed CD software,

Report to DSTO (SSD), CSSIP & The University of Melbourne,
24pp, Jul 2000.

3. Okello N, Scoullar P and Challa S,

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56pp, Jul 2000.