

## Prof. Ahmet Hamdi Kayran

### Personal Information

Email: kayran@itu.edu.tr

### Education Information

Doctorate, University of London-Imperial College of Science, Technology and Medicine, Electrical Engineering, United Kingdom 1979 - 1982

Postgraduate, University of California, Berkeley, Electrical Engineering, United States Of America 1977 - 1979

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1973 - 1977

### Dissertations

Doctorate, Stability, stabilisation and design of multidimensional recursive digital filters, University Of London-Imperial College Of Science, Technology And Medicine, Electrical Engineering, 1982

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Professor, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 1993 - Continues

Associate Professor, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 1987 - 1993

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 1985 - 1987

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Fully Orthogonal 2-D Lattice Structures for Quarter-Plane and Asymmetric Half-Plane Autoregressive Modeling of Random Fields**  
Kayran A. H. , CAMCIOĞLU E.  
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.67, no.17, pp.4507-4520, 2019 (Journal Indexed in SCI)
- II. **ARMA-cepstrum recursion algorithm for the estimation of the MA parameters of 2-D ARMA models**  
Kizilkaya A., Kayran A. H.  
MULTIDIMENSIONAL SYSTEMS AND SIGNAL PROCESSING, vol.16, no.4, pp.397-415, 2005 (Journal Indexed in SCI)
- III. **Estimation of 2-D ARMA model parameters by using equivalent AR approach**  
Kizilkaya A., Kayran A. H.  
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.342, no.1, pp.39-67, 2005 (Journal Indexed in SCI)

- IV. **Matrix-based computation of the exact Cramer-Rao bound for the ARMA parameter estimation realized with relatively short data records**  
Kizilkaya A., Kayran A. H.  
FREQUENZ, vol.58, no.11-12, pp.278-281, 2004 (Journal Indexed in SCI)
- V. **Decision feedback equalisation with complete lattice orthogonalisation**  
Ozden M., Kayran A. H.  
ELECTRONICS LETTERS, vol.37, no.14, pp.923-925, 2001 (Journal Indexed in SCI)
- VI. **Adaptive Volterra channel equalisation with lattice orthogonalisation**  
Ozden M., Kayran A. H. , Panayirci E.  
IEE PROCEEDINGS-COMMUNICATIONS, vol.145, no.2, pp.109-115, 1998 (Journal Indexed in SCI)
- VII. **Adaptive identification and equalization of magnetic recording channels**  
Ozden M., Kayran A. H. , Panayirci E.  
EUROPEAN TRANSACTIONS ON TELECOMMUNICATIONS, vol.9, no.2, pp.203-208, 1998 (Journal Indexed in SCI)
- VIII. **Improved 2D joint process lattice for adaptive restoration of images**  
Kayran A. H.  
ELECTRONICS LETTERS, vol.34, no.4, pp.350-351, 1998 (Journal Indexed in SCI)
- IX. **Two-dimensional schur algorithm**  
Kayran A. H. , Kucuk U., Parker S.  
MULTIDIMENSIONAL SYSTEMS AND SIGNAL PROCESSING, vol.9, no.1, pp.7-37, 1998 (Journal Indexed in SCI)
- X. **Optimum quarter-plane autoregressive modeling of 2-D fields using four-field lattice approach**  
Kayran A. H. , Parker S.  
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.45, no.9, pp.2363-2373, 1997 (Journal Indexed in SCI)
- XI. **Identification of nonlinear magnetic channels with lattice orthogonalisation**  
Ozden M., Panayirci E., Kayran A. H.  
ELECTRONICS LETTERS, vol.33, no.5, pp.376-377, 1997 (Journal Indexed in SCI)
- XII. **2D Schur algorithm using a new generator matrix**  
Kayran A. H.  
ELECTRONICS LETTERS, vol.32, no.22, pp.2044-2045, 1996 (Journal Indexed in SCI)
- XIII. **Adaptive Volterra filtering with complete lattice orthogonalization**  
Ozden M., Kayran A. H. , Panayirci E.  
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.44, no.8, pp.2092-2098, 1996 (Journal Indexed in SCI)
- XIV. **2D ARMA lattice modelling using two-channel AR lattice approach**  
Kayran A. H.  
ELECTRONICS LETTERS, vol.32, no.16, pp.1434-1435, 1996 (Journal Indexed in SCI)
- XV. **2D maximum likelihood spectrum estimation using orthogonal 2D lattice filters**  
Kayran A. H.  
ELECTRONICS LETTERS, vol.32, no.15, pp.1339-1340, 1996 (Journal Indexed in SCI)
- XVI. **Two-dimensional orthogonal lattice structures for autoregressive modeling of random fields**  
Kayran A. H.  
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.44, no.4, pp.963-978, 1996 (Journal Indexed in SCI)
- XVII. **Satellite channel identification with lattice orthogonalisation**  
Ozden M., Kayran A. H. , Panayirci E.  
ELECTRONICS LETTERS, vol.32, no.4, pp.302-304, 1996 (Journal Indexed in SCI)
- XVIII. **FURTHER IMPROVED 2-D LATTICE FILTER STRUCTURE EMPLOYING MISSING REFLECTION COEFFICIENTS**  
ERTUZUN A., KAYRAN A. H. , PANAYIRCI E.  
CIRCUITS SYSTEMS AND SIGNAL PROCESSING, vol.14, no.4, pp.473-494, 1995 (Journal Indexed in SCI)
- XIX. **AN IMPROVED 2-D LATTICE FILTER AND ITS ENTROPY RELATIONS**  
ERTUZUN A., KAYRAN A. H. , PANAYIRCI E.  
SIGNAL PROCESSING, vol.28, no.1, pp.1-24, 1992 (Journal Indexed in SCI)
- XX. **STABLE QUARTER-PLANE 2-D LATTICE FILTERS**

## Refereed Congress / Symposium Publications in Proceedings

- I. **Implementation Aspects for Interference Alignment**  
Yetis C. M. , Anand K., Kayran A. H. , Guan Y. L. , Gunawan E.  
IEEE International Conference on Digital Signal Processing (DSP), Singapore, Singapore, 21 - 24 July 2015, pp.580-584
- II. **Spectrum Estimation using New Efficient 2-D AR Lattice Modeling of Random Fields**  
Camcioglu E., Kayran A. H.  
AFRICON Conference, Pointe aux Piments, Mauritius, 9 - 12 September 2013, pp.604-609
- III. **Stationary wavelet transform for fault detection in rotating machinery - art. no. 67630A**  
Seker S., Karatoprak E., Kayran A. H. , Senguler T.  
Conference on Wavelet Applications in Industrial Processing V, Massachusetts, United States Of America, 11 - 12 September 2007, vol.6763
- IV. **Estimation of the 2-D ARMA model parameters based on the equivalent MA approach**  
Kizilkaya A., Yetis C. M. , Kayran A. H. , Seker S.  
4th IASTED International Conference on Circuits, Signals, and Systems, San-Francisco, Costa Rica, 20 - 22 November 2006, pp.263-265
- V. **Multi-resolution wavelet analysis for detection of potential defects in motor bearings using vibration signals**  
Seker S., Ozturk A., Ayaz E., Upadhyaya B. R. , Kayran A. H.  
4th IASTED International Conference on Circuits, Signals, and Systems, San-Francisco, Costa Rica, 20 - 22 November 2006, pp.254-255
- VI. **Lattice-ladder structure for 2D ARMA filters**  
Eksioglu E. M. , Kayran A. H.  
30th IEEE International Conference on Acoustics, Speech, and Signal Processing, Pennsylvania, United States Of America, 19 - 23 March 2005, pp.101-104
- VII. **Location dependent and rotated group space-time block codes**  
Yetis C., Kayran A. H.  
IEEE 12th Signal Processing and Communications Applications Conference, Kusadasi, Turkey, 28 - 30 April 2004, pp.526-529

## Supported Projects

Kayran A. H. , Project Supported by Higher Education Institutions, Predictive and adaptive channel estimation models for cooperative wireless communication systems, 2015 - 2018

Kayran A. H. , Project Supported by Higher Education Institutions, Girişim Hizalamada Gerçeklemenin İncelenmesi, 2015 - 2018

Kayran A. H. , Project Supported by Higher Education Institutions, 2- Boyutlu AR Kafes Algoritması Kullanarak Spektrum Kestirimi, 2013 - 2018

Kayran A. H. , Project Supported by Higher Education Institutions, 2-Boyutlu Dik Kafes Süzgeç Yapısı Kullanarak Doğrusal Olmayan Sistem Tanılama ve Uygulamaları, 2003 - 2004

## Citations

Total Citations (WOS):306

h-index (WOS):10