



Curriculum Vitae

Prof. Dr. Ayad A. Al-Ani

Department of Information & Communication Engineering (DICE),
College Of Information Engineering (COIE),
Al-Nahrain University (NU), Baghdad-Iraq
Previously / University Vice President



Professional Summary

Prof. Dr. Ayad A. Al-Ani, a University Academic Professor in Physics, with more than 37 years of Professional experience, Teaching, Supervisions, Researches, Consulting, and Scientific Committees. Currently, I am academic professor of: Digital Image Processing, Mathematical Physics, and Statistical Physics. My fields of interest are: Cosmology, Image Processing, and Mathematical Modelling. I supervised: 12 Ph.D., 31 M.Sc., theses, and 38 undergraduate, projects. Moreover, I published: 67 specialist scientific papers and 4 books, 2 books under printing, and more than 25 Scientific articles. Obtained honours of the "Scientific Academics" of Ministry of Higher Education and Scientific Research, in the field of Physics, for activities and creativities for two years successively, 2001 and 2002. Finally, I was born in 5 July 1961, married with two children.

Experiences

1. Highly Experience in: teaching different subjects for post graduates and graduates studies
2. Highly Experience in supervision Ph.D. and M.Sc. projects
3. Highly experience in Management and Administration.
4. Highly Experience in software programming.
5. Highly Experience in: Scientific Committees, Education Development, Planning, Establishing Universities & Research Centers, Establishing & Managing Community Organizations, Establishing & Managing Conferences.

Education

Doctor of Philosophy, Physics (Digital Image Processing) Obtained 4/12/1995

Department of Physics, College of Science, Baghdad University. Baghdad-Iraq

Thesis Title: **Restoration of atmospherically degraded images**

Master of Science, Physics (Mathematical Modelling) Obtained 12/12/1990

Department of Physics, College of Science, Baghdad University. Baghdad-Iraq

Thesis Title: **Simulation program to study the effects of atmospheric turbulence and Optical Defects on astronomical images**

Bachelor of Science, Physics Obtained 30/6/1983

Department of Physics, College of Science, Baghdad University. Baghdad-Iraq

Scientific Titles

| | |
|----------------------|---------------|
| Professor | 1 / 11 / 2006 |
| Assistant Professor | 30 / 4 / 1998 |
| Lecturer | 7 / 6 / 1994 |
| Assistant Lecturer | 5 / 9 / 1991 |
| Assistant Physicist | 13 / 6 / 1984 |
| The First Employment | 16 / 9 / 1983 |

Professional Experience

Professor 9/10/2019 –to date

Department of Information & Communication Eng., College of Information Engineering, Al-Nahrain University, Baghdad-Iraq

- Member of the Scientific Committee Department of Information & Communication Engineering
- Member of the Council of Department of Information & Communication Engineering
- Supervised: **1** Ph.D. students
- Supervised: **1** M.Sc. students
- Supervised: **2** graduation projects
- **Taught: for post graduate studies:** Mathematical Engineering, and Application of Fourier transforms.
- **Taught: for undergraduate studies:** Digital Image Processing and Fundamental of Physics

Department of Physics, College of Science, Al-Nahrain University, Baghdad-Iraq

- Member of the Scientific Committee Department of Physics
- Member of the Council of Department of Physics
- Supervised: 7 Ph.D. students
- Supervised: 12 M.Sc. students
- Supervised: 12 graduation projects
- **Taught: for post graduate studies:** Digital Image Processing, Fourier Optics, Statistical Optics, Mathematical Physics, statistical Physics, Application of Fourier transforms, Mathematical Modelling, Astrophysics, and Space-Time Geometry.
- **Taught: for undergraduate studies:** Optics, Mathematical Physics, and Thermodynamics.

Assistant Professor

Department of Physics, College of Science, Al-Nahrain University, Baghdad-Iraq

- Member of the Scientific Committee Department of Physics
- Member of the Council of Department of Physics
- Supervised: 1 Ph.D. students
- Supervised: 5 M.Sc. students
- Supervised: 6 graduation projects
- **Taught: for post graduate studies:** Fourier Optics, Mathematical Physics, and Statistical Physics.
- **Taught: for undergraduate studies:** Mathematical Physics and Thermodynamics.

Assistant Professor

Department of Space and Astronomy, College of Science, Baghdad University, Baghdad-Iraq

- Chairman of The Scientific Committee Department of Physics
- Chairman of the Council of Department of Physics
- Supervised: 5 Ph.D. students
- Supervised: 14 M.Sc. students
- Supervised: 12 graduation projects
- **Taught: for post graduate studies:** Digital Image Processing, Astrophysics, Fourier Optics, and Mathematical Physics.
- **Taught: for undergraduate studies:** Digital Image Processing, Optics, and Numerical Analysis.

Lecturer

Department of Physics, College of Science, Baghdad University, Baghdad-Iraq

- Supervised: 4 graduation projects
- **Taught: for undergraduate studies:** Optics, Mathematical Physics, Mathematics, and Physics of the Waves, Computer Programming, and Numerical Analysis.
- Supervisor of Numerical Analysis Laboratory.

Assistant Lecturer

Department of Physics, College of Science, Baghdad University, Baghdad-Iraq

- **Taught: for undergraduate studies:** Numerical analysis laboratory, General physics laboratory, and Computer laboratory.

Assistant Physicist

Department of Physics, College of Science, Baghdad University, Baghdad-Iraq

Assistant Physicist

Ministry of Higher Education & Scientific Research, Baghdad-Iraq

Assistant Physicist

Astronomy and Space Research Center / Scientific Research Council, Baghdad-Iraq

- A training course in Zeiss company-West Germany including: UBVRI-photometer, IR-Photometer, Guiding Telescope and Coud'- Echelle Spectrograph, Cassegrain spectrograph.
- Staff member – Instrumentation Unit / Iraqi National Astronomical Observatory.

Field of Interest

Digital image processing, Statistical Physics, Mathematical Physics and Modelling, and Cosmology.

Administration Positions

| | |
|---|-----------------------|
| University Vice President of administrative affairs | 28/12/2003–30/10/2004 |
| Al-Nahrain University, Baghdad - Iraq | |
| Deputy Dean of post graduate studies and scientific research | 15/1/2002–1/6/2003 |
| College of Science, Baghdad University, Baghdad - Iraq | |
| Head of Space and Astronomy Department | 10/11/1999–28/7/2003 |
| College of Science, Baghdad University, Baghdad - Iraq | |
| Academic responsible for post graduate studies | 2/5/1998 – 1/9/2003 |
| Department of Space and Astronomy, College of Science, Baghdad University | |
| Academic responsible for post graduate studies | 1/3/1996 – 1/5/1998 |
| Department of Physics, College of Science, Baghdad University | |

Awards

Obtained honours of the "Scientific Academics" of Ministry of Higher Education and Scientific Research, in the field of Physics, for activities and creativities for two years successively, 2001 and 2002.

Associations and Unions

1. Establishment Member and Board Member of the Association University Lecturers.
2. Establishment Member and Board Member of Quality Education and Academic Accreditation Scientific Society.
3. Establishment Member and Board Member of Afkar Center for Strategic Studies and Development.
4. Member of Iraqi Academic Syndicate.
5. Member of Scientific and Cultural Forum in Falluja.
6. Member of Arabic Union of Astronomy and Space Sciences.
7. Member of Iraqi Association for Physicists and Mathematics.
8. Member of Arabic Union for Physicists and Mathematics.
9. President of Nida'a Al-Hurriya Center for Development and capacity Building

Membership in Journals

1. Member of the Editorial Board of the Journal of Faculty of Science / Al-Nahrain University.
2. Member of the Editorial Board of the Iraqi Journal of Industrial Research / Industrial Research and Development Authority / Ministry of Industry and Minerals.
3. Member of the editorial board of the QEAS Journal of Management Science and Governance / issued by Quality Education and Academic Accreditation Scientific Society.
4. Member of the Advisory Committee of the Journal of the Association of Arab Universities for Basic and Applied Science Universities/ Bahrain (JAAUBAS).
5. Member of the Advisory Committee for the Journal of Nida'a Al-Hurryah for Training and Human Development.
6. Reviewer of Indian Journal of Physics, INJP - D – 19 - 00255

Membership in Institutions

1. Representative of Al-Nahrain University in the Research and Development Authority / Ministry of Industry and Minerals
2. Member of the team work of Al-Nahrain University in the General Company for Mining Industries / Ibn Sina Factory / Ministry of Industry and Minerals
3. A representative of the University of Nahrain in the Council of Advisors / Council of Ministers / in the workshop on the development of private higher education.
4. Member of the Higher Scientific Council for Continuing Education at the Presidency of Al-Nahrain University

Summary Teaching Courses

1. **Postgraduate Studies**
Mathematical Physics, Statistical Physics, Digital Image Processing, Fourier Optics, Statistical Optics, Astrophysics, Space-Time Geometry, Numerical Analysis, Mathematical Modelling, and Application of Fourier Transform
2. **Undergraduate Studies**
Mathematical Physics, Mathematics, Thermodynamics, Optics, Physics of the Waves, Computer Programming, Numerical Analysis

Books Publications

1. **A Simplified Model for HF radio Wave Propagation of Middle East Region**, Khalid A. Hadi, Loay E. George, and Ayad A. Al-Ani
Space Physics, Verlag Publisher, Scholar's Pres, Herstellung: siehe letzte Seite, Deutschland – Germany, ISBN: 978-3-639-66126-2 / copyright © 2014 OmniScriptum GmbH & Co. KG
2. **Wind Energy- The Mathematical and Statistical Basis**
Firas A. Hadi, Ayad A. Al-Ani, and Mohammed A. Saleh, Verlag Publisher, LAP LAMPERT Academic Publishing, Herstellung: siehe letzte Seite, Deutschland – Germany, ISBN : 978-3-659-69677-0copyright © 2015 OmniScriptum GmbH & Co. KG
3. **Relativistic Properties for Atoms in Group 15**
Bilal Jasim and Ayad A. Al-Ani,
Verlag Publisher, LAP LAMPERT Academic Publishing, Herstellung: siehe letzte Seite, Deutschland – Germany, ISBN : 978-3-330-00049-0- copyright © 2016 OmniScriptum GmbH & Co. KG
4. **Restoration of Digital Images Using an Iterative Tikhonov-Miller Filter**
Hala K. Hassan and Ayad A. Al-Ani
Verlag Publisher, LAP LAMPERT Academic Publishing, Herstellung: siehe letzte Seite, Deutschland – Germany, ISBN : 978-3-330-08266-3- copyright © 2017 OmniScriptum GmbH & Co. KG
5. **Philosophy and Physics of the Black-Holes**, Ayad A. Al-Ani, **In Printing**
6. **Physics of the Neutron Stars**, Ayad A. Al-Ani, **In Printing**

University Committees

1. Decision of the main seminar session of the workshop on the development of higher education, which was established by the Council of Ministers / Advisory Counsellors on 4 May 2019
2. Member of the drafting committee of the workshop on the development of higher education, which was established by the Council of Ministers on May 4, 2019
3. Member of the Scientific Council for Planning and Supervision of Continuing Education Affairs / Al-Nahrain University
4. Chairman of the research group " Digital Image Processing and Astrophysics Group " / Department of Physics / College of Science / Al-Nahrain University
5. Member of Promotion Committee / College of Science / Nahrain University
6. Member of the objections committee for central promotions / Nahrain University
7. Member of the university committee to standardize procedures for Examine the postgraduate thesis / letters / Nahrain University
8. Member of the ministerial committee to evaluate the recommendations of conferences and seminars held by the Ministry of Higher Education
9. Member of the university committee for evaluation and testing of graduates of Ukrainian universities
10. Member of developing the curriculum of physics sciences in the College of Science / University of Nahrain
11. Member of the Board of Nahrain University
12. Rapporteur of the Council of the University of Nahrain
13. Member of the State Consultative Council for the establishment of the Astronomical Observatory
14. Chairman of the Committee for the Development of Astronomy and Space Science Research Unit at the College of Science
15. Chairman of the Committee for the Development Centers of Space Observatories in Iraq
16. Chairman of the Committee to develop Departments of space and astronomy science in Iraqi universities
17. Chairman of the Rehabilitation Committee of the Iraqi National Astronomical Observatory
18. Chairman of the Rehabilitation Committee of the Al-Battani Astronomical Observatory
19. Chairman of the Committee for the establishment of a College of Astronomy and Space
20. Member of the Committee for the purchase of equipment for the Department of Space and Astronomy / College of Science
21. Chairman of the site selection committee for the establishment of the Iraqi Astronomical Observatory
22. Chairman of the committees on the curricula of space and astronomy
23. Member of the Committee for the Development of the Department of Space Science and Astronomy at the College of Science
24. Member of the Iraqi National Astronomical Observatory
25. Member of the Astronomical Observatory of Al-Battani

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<http://scholar.google.com/citations?user=I3LSc-gAAAAJ&hl=en>

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Academic Supervision

Ph. D. THESES:

1. Analyzing Activities and Recognizing Abnormal Event for Human Object Detection
2. Iris Recognition Using Principal Component Analysis and Independent Component Analysis techniques.
3. Relativistic Hartree-Fock Computations of Group 15 Atoms and Some Diatomic Molecules.
4. Constructing a Mathematical-Statistical Model of Wind Potential in Iraq Using Different Weibull Distribution Functions
5. Statistical Mechanics & Thermodynamics properties of Bose-Einstein Condensation in Fractal Media.
6. Design and implementation of location determination system by using sound.
7. Propagation of Laser beam Through Thermally Induced Turbulence.
8. Ray Trace Algorithms for Evaluating and optimizing the performance of All-Reflecting Astronomical Telescope.
9. Formulation of Theoretical models for star Distribution in Galaxies.
10. Analytical Study for International Model for Long-Distance Radio waves Propagation.
11. Effect of Thermally Turbulent Aerial path on Laser Propagation and Image Characteristics.
12. Anomalous Diffusion in Pulsar Atmosphere.
13. Theoretical Microbial Models for interstellar grains.

M. Sc. THESES

1. Image Retrieval Based On Discrete Curve-let Transform
2. Restoration of the Degraded Image using Blind deconvolution Algorithm
3. Theoretical Imaging Model Through an Optical Defects And Inhomogeneous Optical Medium
4. Study The Effects of Regularization Parameters within non-Blind Deconvolution algorithm.
5. Image Retrieval Using Mead's algorithm.
6. Image Restoration Using an iterative method.
7. On the Chromatic Field Aberration of Magnetic Lenses With a Fields of the Form $B(z) \propto z^{-n}$, $n=2,3$.
8. Simulation of acousto-optic device for photonic system.
9. High Hiding Rate Image Steganography System Based on Affiant Transform and LSB Method.
10. Band Ratios and indices of multispectral satellite images for classification accuracy.
11. Image Restoration Using Modified Iterative Techniques.
12. A computational investigation on the effect of lens material on the aberration of an Infrared optical system.
13. Analytical study for strong and micro-lensing in some Gravitational lensing system.
14. Cosmological Applications of Gravitational Lensing.
15. Effects of turbulence on low orbit satellite parameters.
16. Modified Centring Algorithms for Astronomical Images.
17. Analytical study for thermal images processing techniques used for targets detection.
18. Targets Detection Using Sound Processing Techniques.
19. Mathematical Models for Determining the Charge Distribution in Ionosphere Region.
20. Effect of F2 layer on HF communication far meters.
21. Design and construction of near IR hazer beam diagnosing and analysing system.
22. Sectional form Determination for Gregorian's Telescope.
23. Analytical Study for Locations determination methods for moving objects.
24. Analytical Studies for Geometrical Formation methods.
25. Image Deblurring Using polynomial Transform.
26. Maximum a Posteriori Filter For restoration Speckle Images.
27. English Characters Recognition using Co-Occurrence and moments criteria.
28. Sharpening Digital Images by using Polynomial Transform.
29. Estimation of Uniform parameter and Image Restoration.
30. Segmentation and Classification of Digital Images.
31. Studying the flooded Area by Principal Component Analysis of Multi Temporal Landsat Thematic Mapper Data.
32. Linear Digital restoration filters.
33. An Adaptive Iterative image restoration techniques.

Publications

- 1- A. A. Al-Ani and A. H. Sheer, **Images Reconstruction Using Modified Regularizing Iterative Filter**, To be Published
- 2- Hassan H. and Ayad A. Al-Ani **Study the effects of short – and long – exposure imaging in case of incoherent Fraunhofer diffraction pattern**, To be Published
- 3- Ahmad K. Ahmad, Ayad A. Al-Ani, and Marwa K. Mustafa, **Simulation of Acousto-Optic Modulation Using Glass, Germanium and Tellurium-Oxide Materials**, 2nd International Conference in Physical science & Advanced Materials: 23-25 October 2020 Istanbul/ Turkey.
- 4- Hassan H. and Ayad A. Al-Ani, **Qualitative and Quantitative Study of the Effect of Spherical Aberration on Optical System in case of Coherent and Incoherent Illumination**, Iraqi Journal of Science, Baghdad University, Vol. (), pp. (), 2020
- 5- Hassan H. and Ayad A. Al-Ani, **Comparison Study between Fraunhofer and Fresnel Diffraction in case of Coherent and incoherent Illumination**, Al-Nahrain Journal of Science (ANJS), Vol.23 (2), June, 2020 pp. (39-43).
- 6- A. A. Al-Ani , Y. A. Jasim, and L.A. Al-Ani, and
- 7- Laith A. Al-Ani, Ayad A. Al-Ani, Yasir A. Jasim, **Automated Iris Recognition Using Whitens Independent Component Analysis**, (WICA), (CCIT 2019) , University of Anbar, 24-25 April 2019, REVISTA AUS 26-2 / DOI: 10.4206 / aus . 2019 . n26.2.15 / www.ausrevista.com/ editor@ausrevista.com
- 8- Y. A. Jasim, L.A. Al-Ani, and A. A. Al-Ani, **Iris Recognition Using Principle Component Analysis**, Acceptable and Represented in 1st Annual International Conference for Information and Science "AICIS", IEEE recorded No. 46152, 19-21 Nov. 2018, Fallujah University, Iraq.
- 9- A. H. Sheer and A. A. Al-Ani, **The Effect of Regularization Parameter within non-Blind Restoration Algorithm using Modified Iterative wiener Filter For Medical Images**, Acceptable and Represented in 1st Annual International Conference for Information and Science "AICIS", IEEE recorded No. 46152, 19-21 Nov. 2018, Fallujah University, Iraq.
- 10- A. A. Al-Ani, Mohammed S. Mahdi, and Sally. A. Al-Rubaie, **Color Image Restoration using Iterative Mead's Filter**, J. of Al-Nahrain University-Science Vol. 21, December, pp 83-93 (2018)
- 11- A. A. Al-Ani, Mohammed S. Mahdi, and Sally A. Al-Rubaie, **J. of Al-Nahrain University-Science**
- 12- A. A. Al-Ani, Mohammed S. Mahdi, and Sally A. Al-Rubaie, **Digital Images Retrieval Using Iterative Technique**, International Research Journal of Advanced Engineering and Science (IRJAES), ISSN (Online) 2455-9024 pp.90-95 (2018)
- 13- A. A. Al-Ani, Mohammed S. Mahdi, and Sally. A. Al-Rubaie, **Review of linear image degradation and image restoration technique**, Asian Journal of Computer Science Engineering (AJCSE) www.ajcse.info, pp5-14 (2018)
- 14- Ihsan O. M. Sa'aed and A. A. Al-Ani, **السياسات المستقبلية للتعليم العالي والبحث العلمي في العراق في ضوء أهداف التنمية المستدامة** , المجال الثالث مؤتمر الهندسة القيمية والسياسات ، المؤتمر الدولي القيمي الثاني pp . (2018)
- 15- Abdul Salam A. H. Al-Noori and A. A. Al-Ani, **ورقة جاهزية جامعة الفلوجة للاعتماد وضمان الجودة وفق معايير اتحاد الجامعات العربية: حالة** , المؤتمر الأول للجودة في التربية والتعليم العالي في العراق , دراستية 13-14 December 2107
- 16- A. A. Al-Ani and Hala K Al-Kazi, **Image Restoration Using Modified Iterative Tikhonov-Miller Algorithm**, International Journal of Scientific and Engineering Research, Vol. 7, Issue 12, January 2017 1243 ISSN 2229-5518
- 17- A. A. Al-Ani and Hala K. Hadi, **Restoration of Digital Images Using an Iterative Filter Algorithm**, Iraqi Journal of Science, 2017, Vol. 58 No. 18 pp.: 377-387 DOI: 10.24996. ijs. Feb. 2017.58.1B.20
- 18- B. K. Al-Mashadany, A. A. Al-Ani, and S. N. Abood, **Using Gaussian Basis-Set and with Gaussian Nuclear Charge Distribution to Solve Dirac-Hartree-Fock Equation for ⁸³Bi - Atom**, J. of Al-Nahrain University-Science Vol.19 (30), September, 2016, pp.70-76
- 19- B. K. Al-Mashadany, A. A. Al-Ani, and S. N. Abood , **Correction Four-Component Dirac-Columb using Gaussian Basis-Set and Gaussian Model Distribution for Super Heavy Element (Z=115)**, Iraqi Journal of Applied Physics, Vol. (12) Issue (1) January-March 2016 pp. 17-21
- 20- A. A. Al-Ani, M. A. Saleh, F.A. Hadi, and R. A. Abdul Wahab, **Weibull Parameters and Wind Power Assessment for three Locations in Iraq**, Iraqi J. of Science -Baghdad University, Vol.55 No. B2 pp.729-740 (2014)
- 21- M. A. Saleh, A. A. Al-Ani, and F.A. Hadi, **Ambient Turbulence Intensity Calculation for Al-Nasiriyah Province in Iraq**, Iraqi Journal of Science, , Vol 55, No.2A, pp:561-571 (2014)
- 22- A. A. Al-Ani, **الجامعة العراقية للمدة من 8** , المؤتمر الدولي " الإسهام الحضاري لإعلام العراق في القرن العشرين , عالم الفيزياء النظرية عبد الجبار عبد الله 2014 / 1 / 9 –
- 23- Khalid A. Hadi, Loay A. George, and A. A. Al-Ani, **A Simplified Model for HF Radio Wave Propagation for Middle East Region**, International Journal of Physics and Astronomy, ISSN: 2051-6851, Vol. 27 Issue. 1, March, pp.1129-1135, Impact factor: 2.119. (2014)
- 24- Khalid A. Hadi, Loay A. George, and Ayad A. Al-Ani , **Analytical Study for an International Model of Long Distance Radio Wave Propagation**, International Journal of Enhanced Research in Science Technology and Engineering, ISSN : 2319 -7463, Vol. 3, Issue 3, March, pp. 417-426, Impact factor : 1.252, (2014)
- 25- A. A. Al-Ani, M. S. Ahmed and M. S. Yousif, **Design and Construct a Beam Profile of Near IR Laser Based on CCD Camera**, J. of Al-Nahrain University-Science Vol.17 (1), March, pp.82-88 (2014)
- 26- Bahaa A. H. Jawad, A. A. Al-Ani, and Oday A. Hussein, **The Chromatic Field Aberration of Monopole, Dipole and Quadrupole Magnetic Lenses**, Asian Transactions on Fundamentals of Electronics, Communication and Multimedia, Vol.(2), Issue 03 pp.12-17July (2012)
- 27- A. K. Ahmed and A. A. Al-Ani, **Application of Strong-Lensing for some Gravitational Lenses**, J. of Al-Nahrain University-Science Vol.10(2), December, pp.73-76 (2008)

- 28- A. A. Al-Ani, **Reconstruction of Satellite Images using modified Statistical Iterative Technique**, *J. of Al-Nahrain University-Science* Vol.10 (2), June, pp.60-72 (2007)
- 29- H. F. Al-Baldawi and A. A. Al-Ani, **A Computational investigation of Lens Material of An Infrared Optical System**, *J. of Al-Nahrain University-Science* Vol.10 (2), June, pp.49-54 (2007)
- 30- A. M. Al-Ani, A. A. Al-Ani, and M. A. Saleh., **Determination of the Hubble constant in the presence of Shear and non-Isothermal Models**, *J. of Al-Nahrain University-Science* Vol.9 (2) Dec. pp.111-115 (2006)
- 31- A. A. Al-Ani, **Restoration of Astronomical images Using an adaptive Iterative Wiener Filter**, *J. of Al-Nahrain University-Science* Vol.8 (2), pp.75-79 (2006)
- 32- A. A. Al-Ani, **An adaptive iterative image restoration Using Projection onto convex Sets method**, *The fourth Saudi Technical Conference and Exhibition, Vol. IV*, pp.272-278, (2006)
- 33- W. R. Al-Azawi, A. Talib, and A. A. Al-Ani, **The effects on the perception of a thermal image by a human observer**, *ATTI Delta, Fondazione Giorgio Ronchi", Scienza Delta Vision, ANNO LX. No.3*, pp.475-484 (2005)
- 34- L. A. Al-Ani, A. A. Al-Ani and A. H. Ali, **Monitoring the flooded areas by principal Component analysis of multi-temporal Land-sat thematic Mapper Images**. *J. of Al-Nahrain University*, vol.7, No.1, pp.134-138, (2004).
- 35- S. K. J. Al-Ani, A. A. Al-Ani, and S.R. Al-Ani, **Enhancement blurred Images by Using Conventional Filters**, *Iraqi J. of Science* Vol.45E, No.1, pp.88-106 (2004)
- 36- A. A. Al-Ani, L. A. Jorj and I. K. Ugeib, **Analytical Study For Geometrical Enlarge Transform Using Lagrange and Cubic Spline Interpolation**, *J. of Science and engineering*, vol.3, pp.45-51, (2003)
- 37- A. A. Al-Ani, **Design New Filter for Linear Image Restoration**, *Iraqi J. of Science* Vol.44 E, No.1, pp114-129 (2003)
- 38- L. K. Abood, A. A. Al-Ani, and R N. Hassan, **Estimation of Optimal Location of signal Source using Modified optimization method**, *Iraqi J. of Science* Vol.44 E, No.1, pp130-145 (2003)
- 39- L K. Abood, A. A. Al-Ani, and F. A. Hadi, **Deblurring Digital Images using Hermit Polynomial approximation**, *Iraqi J. of Science* Vol.44 E, No.1, pp 100-113 (2003)
- 40- A. A. Al-Ani, **An Adaptive Edge Detection Techniques for Simulated SAR Images Smoothed by Median Filter**, *Iraqi J. of Science* Vol.43 E No.1 pp.1-13 (2002)
- 41- N. Isamat, L. A. Al-Ani and A. A. Al-Ani, **Image Segmentation Using Modified Split and merge Method**, 2nd scientific conference, College of Science, University of Baghdad, (22-24) march (1999).
- 42- S. M. Ali, A. A. Al-Ani, and S. J. Al-Amri, **Maximum a Posteriori technique For Smoothing Simulated SAR Images**, *Iraqi J. of Science* Vol.43 E No.1 pp.50-65 (2002).
- 43- A. A. Al-Ani and S. D. Al-Bayaty, **Estimation of Uniform Blur and Noise Parameters**, *Iraqi J. of Science* Vol.43E No.1 pp.91-103 (2002)
- 44- N. L. Jabir, M. A. Saed and A. A. Al-Ani, **Analysis of the Diffuse Interstellar Bands, Extinction and Linear Polarization of HD2905 (κ -CASSIOPEIAE)**. *Iraqi J. of Science* Vol.42E, No.2 (2001).
- 45- A. A. Al-Ani, S.K.J. Al-Ani and S. R. H. Al-Ani, **Image Sharpening Using Polynomial Transform Filters**, *Iraqi J. of Science* Vol.42E No.2 pp.139-158 (2001)
- 46- M. A. Saed, N.L. Jabir, and A. A. Al-Ani, **Infrared Interstellar Extinction and Optical Linear Polarization of Star Lights**. *Iraqi J. of Science* Vol.42E No.2 pp.50-68 (2001)
- 47- S.M. Ali, A. A. Al-Ani, and E F. Khanjar, **An Adaptive Iterative Technique for Image Restoration**, *Iraqi J. of Science* Vol.42E No.2 pp.24-35 (2001).
- 48- A. A. Al-Ani, **Image Restoration Using Modified Iterated Wiener and Homomorphic Filters**, *Iraqi J. of Science* Vol.42E No.2 pp.1-23 (2001)
- 49- A. H AL-Muhamadi and A. A. Al-Ani, **The Relation Between The factors of Probability for the Crescent Moon Visibility**. *Iraqi J. of Science* Vol.42E No.1 pp.56-68 (2001)
- 50- A. A. Al-Ani, M. A. Saed and N. L. Jabir, **Analysis of the Diffuse Interstellar Bands Observations**. *Iraqi J. of Science* Vol.41E No.1 pp.39-55 (2001)
- 51- M. A. Saed, A. A. Al-Ani and N. L. Jabir, **Microbial Model for interstellar Extinction and Linear Polarization of HD37903**. *Iraqi J. of Science* Vol.41E No.1 pp.19-38 (2001)
- 52- M. A. Saed, N. L. Jabir, and A. A. Al-Ani, **Theoretical Microbial Model for interstellar grains in Large Magellanic Cloud**. *Iraqi J. of Science* Vol.41E No.1 pp.1-18 (2001)
- 53- A. A. Al-Ani and L. A. Al-Ani, **Image Reconstruction For non Isoplanatic Degradations**, *J. of Saadam University*, Vol.4 No.2 pp.119-130 (2000)
- 54- A. A. Al-Ani, **Estimation of Uniform Blur and noise parameters**, *International conference on Research Trends in Science and Technology (RTST 2000) Beirut, Lebanon, March 6-8, 2000*.
- 55- A. A. Al-Ani and A.H AL- Muhamadi, **Maximum Entropy method as a smoothing technique**. *Iraqi J. of Science* Vol.41C No.4 pp.1-16 (2000).
- 56- A. A. Al-Ani, **Image Restoration For non Isoplanatic Degradations**, 2nd conference for College of Science, (13-14) Nov. 1999, Philadelphia University, Jordan
- 57- A. A. Al-Ani, **Atmospheric turbulence and spherical aberration effects on the resolving power of optical telescopes**. *Iraqi J. of Science* Vol.41C No.3 pp.47-60 (2000)
- 58- S. K. J. Al-Ani, A. A. Al-Ani, and A.A.K. Al-Luhebi, **Linear Restoration Filter for non Linear Degradations**, *Iraqi J. of Science* Vol. 41C No.2 pp.25-40 (2000)
- 59- A. A. Al-Ani and S. K. Al-Ani, **An adaptive Enhancement technique for Images Corrupted by Uncorrelated noise**, *Iraqi J. of Science* Vol. 41C No.2 pp.41-53 (2000)
- 60- A. A. Al-Ani and S. M. Ali, **Atmospheric turbulence and defocusing effects on the resolving power of optical telescopes**. *J. College Education For Women*, Vol.10 No.2 pp.259-269 (1999)
- 61- A. A. Al-Ani, L. A. Al-Ani and S. M. Ali, **Entropy as a measure of degradation effects**. *J. of Saadam University*, Vol.2 No.1 pp.113-136 (1998)

- 63- A. A. Al-Ani, S. M. Ali and L.A. Al-Ani, **Qualitative and quantitative comparison study between short- and long-exposure imaging.** J. of Saadam University, Vol.2 No.1 pp.83-111 (1998)
- 64- A. A. Al-Ani, **Deblurring of astronomical images using modified Wiener filter,** J. of Saadam University, Vol.2 No.1 pp.63-71 (1998)
- 65- S. M. Ali and A. A. Al-Ani, **Matching technique based on Isolating Image objects.** 2nd conference for College of Science, (8-9) July 1997, Philadelphia University, Jordan
- 66- A. A. Al-Ani, **Restoration of degraded object using Modified Wiener filter.** 2nd conference for College of Science, (8-9) July 1997, Philadelphia University, Jordan
- 67- S. K. Al-Ani and A. A. Al-Ani, **Determination of optical energy gap of non-crystalline materials.** Iraqi J. of Science Vol.35 No.4 pp. (1994).
- 68- A. A. Al-Ani, **Imaging through randomly inhomogeneous media.** Iraqi J. of Science Vol.35 No.1 pp. (1994)
- 69- S. J. Lafta and A. A. Al-Ani, **Entropy as a measure of focusing in optical image.** Iraqi J. of Science. Vol.35 No.2 pp. (1994).
- 70- A. A. Al-Ani, S. M. Ali and A. M. A. H. Al-Samaray, **Atmospheric turbulence model program.** Iraqi J. of Science Vol.33 No.3-4 pp. (1992).
- 71- A. A. Al-Ani and S. M. Ali, **Limitations imposed by atmospheric turbulence on astronomical images.** Iraqi J. of Math. And Phys. Vol.13 No.2 pp. (1992).
- 72- F.A. Basil, M. A. Manhel and A. A. Al-Ani, **A study design of thermoelectric cooling device using low cost thermocouples,** J. of Space and Astron. research. 3 pp. (1986).

