Prof. AFŞAR SARANLI

Personal Information

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Education Information

Doctorate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1995 - 2000

Postgraduate, University of London-Imperial College of Science, Technology and Medicine, Department Of Electrical And Electronics Engineering, United Kingdom 1993 - 1994

Undergraduate, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1989 - 1993

Foreign Languages

French, C1 Advanced English, C1 Advanced

Dissertations

Doctorate, A Unifying theory for rank-based multiple classifier systems, with applications in speaker identification and speech recognition, Middle East Technical University, Faculty of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, 2000

Postgraduate, Investigation of an Alternative B-Spline Basis in Adaptive RBF Networks with Applications to System Identification and Time-Series Prediction, University Of London-Imperial College Of Science, Technology And Medicine, Department Of Electrical And Electronics Engineering, 1994

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2020 - Continues

Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2013 - 2020 Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2006 - 2013 Lecturer PhD, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2005 - 2006

Courses

FEEDBACK SYSTEMS, Undergraduate, 2017 - 2018 PROBABILISTIC ROBOTICS, Postgraduate, 2018 - 2019 PROCESS CONTROL, Undergraduate, 2018 - 2019 LABORATORY OF FEEDBACK CONTROL SYSTEMS, Undergraduate, 2017 - 2018 Discrete Time Systems, Undergraduate, 2016 - 2017 Engineering Design II, Undergraduate, 2007 - 2008 Engineering Design I, Undergraduate, 2007 - 2008 Stability Theory of Dynamic Systems, Doctorate, 2007 - 2008 Linear System Theory 1, Doctorate, 2006 - 2007 Systems and Control, Undergraduate, 2005 - 2006 Fundamentals of Electrical and Electronics Engineering, Undergraduate, 2005 - 2006

Advising Theses

SARANLI A., Adaptive mesh-grid based spatially non-uniform video motion deblurring using IMU-camera sensor fusion, Postgraduate, A.ARSLAN(Student), 2021 SARANLI A., A comparative study of quadtree decomposition and constrained delaunay triangulation using MDP and artificial potential field based path planning, Postgraduate, B.Kandehir(Student), 2019 SARANLI A., FPGA implementation of field oriented control forpermanent magnet synchronous motor, Postgraduate, G.Irmak(Student), 2019 ANKARALI M. M., SARANLI A., Control of an underactuated system around a periodicorbit, Postgraduate, A.DENIZ(Student), 2018 SARANLI A., A comparative study on tightly coupled visual aided inertial navigation systems for unmanned aerial vehicles, Postgraduate, T.INCE(Student), 2018 ANKARALI M. M., SARANLI A., RG-trees: Trajectory-free feedback motion planning using sparse random reference governor trees, Postgraduate, F.GÖLBOL(Student), 2018 Saranlı A., Yazıcıoğlu Y., BODY ATTITUDE CONTROL OF A PLANAR ONE-LEGGED HOPPING ROBOT USING A NOVEL AIR DRAG ASSISTED REACTION WHEEL, Postgraduate, N.ÜNVER(Student), 2016 SARANLI A., A Study on particle filter based audio-visual face tracking on the AV16.3 dataset, Postgraduate, Y.Emre(Student), 2016 SARANLI A., Single and multi-frame motion deblurring for legged robots: Characterization using a novel FD-AROC performance metric and a comprehensive motion-blur dataset, Doctorate, G.KORAY(Student), 2016 SARANLI A., A study on particle filter based audio-visual face tracking on the AV16.3 dataset, Postgraduate, Y.EMRE(Student), 2016 SARANLI U., SARANLI A., A novel real-time inertial motion blur metric with applications to motion blur compensation, Postgraduate, M.MUTLU(Student), 2014 SARANLI A., Modeling and control of the three degrees-of-freedom parallel manipulated robotic sensor head, Doctorate, M.ORKUN(Student), 2014 SARANLI A., SARANLI U., A Novel real-time inertial motion blur metric with applications to motion blur compensation /, Postgraduate, M.Mutlu(Student), 2014 LEBLEBİCİOĞLU M. K., SARANLI A., Optimal control of a half circular compliant legged monopod, Doctorate, Y.ÖZKAN(Student), 2013

Saranlı A., Yazıcıoğlu Y., Acoustic surface perception through the ground interaction of compliant legs of a hexapod robot, Postgraduate, M.CÜNEYİTOĞLU(Student), 2012

SARANLI A., PID and LQR control of a planar head stabilization platform, Postgraduate, E.AKGÜL(Student), 2011 Saranlı A., Yazıcıoğlu Y., Modelling the effects of half circular compliant legs on the kinematics and dynamics of a legged robot, Postgraduate, E.SAYGINER(Student), 2010

SARANLI A., An FPGA based high performance optical flow hardware design for autonomous mobile robotic platforms, Postgraduate, G.KORAY(Student), 2010

SARANLI A., SARANLI U., Control of hexapedal pronking through a dynamically embedded spring loaded inverted pendulum template, Postgraduate, M.MERT(Student), 2010

SARANLI A., Camera motion blur and its effect on feature detectors, Postgraduate, F.ÜZER(Student), 2010 SARANLI A., A novel mobile robot navigation method based on combined feature based scan matching and FastSLAM algorithm, Postgraduate, A.ÖZGÜR(Student), 2010

SARANLI A., RRT based Kinodynamic motion planning for multiple camera industrial inspection, Postgraduate, B.BİLGE(Student), 2009

SARANLI A., BAYKAL B., Tracker-aware detection: A theoretical and an experimental study, Doctorate, M.ŞAMİL(Student), 2009

SARANLI A., Kalman filter based fusion of camera and inertial sensor measurements for body state estimation, Postgraduate, G.ASLAN(Student), 2009

SARANLI A., Efficient detection and tracking of salient regions for visual processing on mobile platforms, Postgraduate, G.SERHAT(Student), 2009

Saranlı A., Yazıcıoğlu Y., Flexible multibody dynamic modeling and simulation of Rhex hexapod robot with half circular compliant legs, Postgraduate, G.ORAL(Student), 2008

SARANLI A., Efficient calibration of a multi-camera measurement system using a target with known dynamics, Postgraduate, M.DENİZ(Student), 2008

SARANLI A., A comparative study of tracking algorithms in underwater environment using sonar simulation, Postgraduate, E.EGE(Student), 2007

SARANLI A., BAYKAL B., On optimal resource allocation in phased array radar systems, Postgraduate, A.IRCI(Student), 2006

Published journal articles indexed by SCI, SSCI, and AHCI

I. Reinforcement Learning versus Conventional Control for Controlling a Planar Bi-rotor Platform with Tail Appendage

Ugurlu H. I., KALKAN S., SARANLI A.

Journal of Intelligent and Robotic Systems: Theory and Applications, vol.102, no.4, 2021 (SCI-Expanded)

II. Multi-Frame motion deblurring of video using the natural oscillatory motion of dexterous legged robots

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IET IMAGE PROCESSING, vol.13, no.9, pp.1502-1508, 2019 (SCI-Expanded)

III. Feature Detection Performance Based Benchmarking of Motion Deblurring Methods: Applications to Vision for Legged Robots Gultekin G. K., SARANLI A.

IMAGE AND VISION COMPUTING, vol.82, pp.26-38, 2019 (SCI-Expanded)

- IV. Optimal control of a half-circular compliant legged monopod AYDIN Y. O., SARANLI A., YAZICIOĞLU Y., SARANLI U., LEBLEBICIOGLU K.
 CONTROL ENGINEERING PRACTICE, vol.33, pp.10-21, 2014 (SCI-Expanded)
- V. Lagrangian based mathematical modeling and experimental validation of a planar stabilized platform for mobile systems

Rohani B., YAZICIOĞLU Y., MUTLU M., Ogucu O., Akgul E., SARANLI A. JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.259, pp.955-964, 2014 (SCI-Expanded)

VI. Acoustic surface perception from naturally occurring step sounds of a dexterous hexapod robot Ozkul M. C., SARANLI A., YAZICIOĞLU Y. MECHANICAL SYSTEMS AND SIGNAL PROCESSING, vol.40, no.1, pp.178-193, 2013 (SCI-Expanded) VII. An FPGA based high performance optical flow hardware design for computer vision applications Gultekin G. K., SARANLI A. MICROPROCESSORS AND MICROSYSTEMS, vol.37, no.3, pp.270-286, 2013 (SCI-Expanded) VIII. Threshold Optimization for Tracking a Nonmaneuvering Target Aslan M. S., SARANLI A. IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.47, no.4, pp.2844-2859, 2011 (SCI-Expanded) IX. A tracker-aware detector threshold optimization formulation for tracking maneuvering targets in clutter Aslan M. S., SARANLI A. SIGNAL PROCESSING, vol.91, no.9, pp.2213-2221, 2011 (SCI-Expanded) X. Study on Q-RAM and Feasible Directions Based Methods for Resource Management in Phased Array **Radar Systems** Irci A., SARANLI A., BAYKAL B. IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.46, no.4, pp.1848-1864, 2010 (SCI-Expanded) XI. Tracker-aware adaptive detection: An efficient closed-form solution for the Neyman-Pearson case Aslan M. S., SARANLI A., BAYKAL B. DIGITAL SIGNAL PROCESSING, vol.20, no.5, pp.1468-1481, 2010 (SCI-Expanded) XII. On output independence and complementariness in rank-based multiple classifier decision systems Saranli A., Demirekler M. PATTERN RECOGNITION, vol.34, no.12, pp.2319-2330, 2001 (SCI-Expanded) XIII. A statistical unified framework for rank-based multiple classifier decision combination Saranli A., Demirekler M. PATTERN RECOGNITION, vol.34, no.4, pp.865-884, 2001 (SCI-Expanded) XIV. Complexity reduction in radial basis function (RBF) networks by using radial B-spline functions Saranli A., Baykal B. NEUROCOMPUTING, vol.18, pp.183-194, 1998 (SCI-Expanded)

Articles Published in Other Journals

- I. Rank-Based Multiple Classifier Decision Combination: A Theoretical Study SARANLI A., Demirekler M.
 Journal of Advanced Computational Intelligence and Intelligent Informatics, vol.5, no.1, pp.37-43, 2001 (Scopus)
- II. A unified view of rank-based decision combination
 SARANLI A., Demirekler M.
 Proceedings International Conference on Pattern Recognition, vol.15, no.2, pp.479-482, 2000 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. A COGNITIVE CAMERA SYSTEM FOR INCREASING FACE RECOGNITION PERFORMANCE IN BACKLIT CONDITIONS

Gültekin G. K., Ergül M., Hakyemez A. D., Saranlı A., Alatan A. A., Üstün İ. E. Counterterrorism, Crime Fighting, Forensics, and Surveillance Technologies VI 2022, Berlin, Germany, 5 - 06 September 2022, vol.12275

II. Eksik Tahrikli Bir Sistemin Periyodik Yörünge Çevresinde Kontrolü

Duyul A. D., Saranlı A., Ankaralı M. M.

Eksik Tahrikli Bir Sistemin Periyodik Yörünge Çevresinde Kontrolü, İstanbul, Turkey, 12 - 14 April 2018, pp.113-114

III. Lineer Bir Sistemin Eş Zamanlı Sistem Belirleme ve Durum Kestirimi
 Gölbol F., Ankaralı M. M., Saranlı A.
 Türkiye Robotbilim Konferansı Programı, İstanbul, Turkey, 12 - 14 April 2018, pp.243-244

IV. RG-Trees: Trajectory-Free Feedback Motion Planning Using Sparse Random Reference Governor Trees

GÖLBOL F., ANKARALI M. M., SARANLI A.

25th IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Madrid, Spain, 1 - 05 October 2018, pp.6506-6511

V. Motion deblurring utilizing the variable speed egomotion of camera and comparison based on corner feature points Değişken Hizli Kamera Öz Hareketinden Kaynaklanan Hareket Bulanikliğinin Giderilmesi ve Köşe Öznitelik Noktalari Temelli Karşilaştirma GÜLTEKİN G. K., SARANLI A.

25th Signal Processing and Communications Applications Conference, SIU 2017, Antalya, Turkey, 15 - 18 May 2017

- VI. Chaotic time-series prediction and the relocating-LMS (RLMS) algorithm for radial basis function networks
 - SARANLI A., BAYKAL B.

8th European Signal Processing Conference, EUSIPCO 1996, Trieste, Italy, 10 - 13 September 1996

VII. A Real-Time Inertial Motion Blur Metric: Application to Frame Triggering Based Motion Blur Minimization

Mutlu M., SARANLI A., SARANLI U.

IEEE International Conference on Robotics and Automation (ICRA), Hong Kong, PEOPLES R CHINA, 31 May - 07 June 2014, pp.671-676

VIII. A Real-Time Inertial Motion Blur Metric

Mutlu M., SARANLI A., SARANLI U.

22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.2225-2228

IX. A comparative evaluation of adaptive and non-adaptive Sliding Mode, LQR & PID control for platform stabilization

Akgul E., MUTLU M., SARANLI A., YAZICIOĞLU Y.

2012 IEEE International Conference on Control Applications, CCA 2012, Dubrovnik, Croatia, 3 - 05 October 2012, pp.1547-1552

X. A genetic algorithm based solution to constrained component placement of a mobile robot GÜLTEKİN G. K., Öğücü M. O., Sayginer E., SARANLI A.

International Symposium on INnovations in Intelligent SysTems and Applications, INISTA 2012, Trabzon, Turkey, 2 - 04 July 2012

XI. ACOUSTIC SURFACE PERCEPTION FOR IMPROVED MOBILITY OF LEGGED ROBOTS Ozkul M. C., SARANLI A., YAZICIOĞLU Y.

ASME International Design Engineering Technical Conferences/Computers Information in Engineering Conference, Illinois, United States Of America, 12 - 15 August 2012, pp.75-76

XII. A DYNAMIC MODEL OF RUNNING WITH A HALF-CIRCULAR COMPLIANT LEG Ankarali M. M., SAYGINER E., YAZICIOĞLU Y., SARANLI A., SARANLI U. 15th International Conference on Climbing and Walking Robots and the Support Technologies for Mobile Machines, Maryland, United States Of America, 23 - 26 July 2012, pp.425-432

- XIII. MODELING HALF-CIRCULAR COMPLIANT LEG BY USING SIMMECHANICS
 Ogucu M. O., SARANLI A., YAZICIOĞLU Y.
 15th International Conference on Climbing and Walking Robots and the Support Technologies for Mobile
 Machines, Maryland, United States Of America, 23 26 July 2012, pp.231-238
- XIV. A Comparative Evaluation of Adaptive and Non-adaptive Sliding Mode, LQR & PID Control for

Platform Stabilization

Akgul E., MUTLU M., SARANLI A., YAZICIOĞLU Y.

IEEE International Conference on Control Applications (CCA) Part of 6th IEEE Multi-Conference on Systems and Control (IEEE MSC), Dubrovnik, Croatia, 3 - 05 October 2012, pp.1547-1552

XV. Control of Underactuated Planar Hexapedal Pronking Through a Dynamically Embedded SLIP Monopod

Ankaralı M. M., Saranli U., SARANLI A.

IEEE International Conference on Robotics and Automation (ICRA), Alaska, United States Of America, 3 - 08 May 2010, pp.4721-4727

XVI. TASK ORIENTED KINEMATIC ANALYSIS FOR A LEGGED ROBOT WITH HALF-CIRCULAR LEG MORPHOLOGY

Sayginer E., Akbey T., YAZICIOĞLU Y., SARANLI A.

IEEE International Conference on Robotics and Automation, Kobe, Japan, 12 - 17 May 2009, pp.1771-1772

XVII. An Optimal Radar Detector Threshold Adaptation for Maneuvering Targets in Clutter Aslan M. S., SARANLI A.

IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.882-883

XVIII. Characterization and calibration of MEMS inertial measurement units Aslan G., SARANLI A.

16th European Signal Processing Conference, EUSIPCO 2008, Lausanne, Switzerland, 25 - 29 August 2008

XIX. Optimal tracker-aware radar detector threshold adaptation: A closed-form solution Aslan M. Ş., SARANLI A., BAYKAL B.

11th International Conference on Information Fusion, FUSION 2008, Cologne, Germany, 30 June - 03 July 2008

XX. Development of a closed-form solution for instantaneous threshold optimization using modified riccati equation Modified riccati denklemi kullanilarak anlik eşik optimizasyonu için bir kapali-çözüm geliştirilmesi

Aslan M. Ş., SARANLI A., BAYKAL B.

2008 IEEE 16th Signal Processing, Communication and Applications Conference, SIU, Aydın, Turkey, 20 - 22 April 2008

XXI. Performance Comparison of Target Tracking Algorithms in Underwater Environment Ege E., SARANLI A.

IEEE 16th Signal Processing and Communications Applications Conference, Aydın, Turkey, 20 - 22 April 2008, pp.577-580

XXII. A Gaussian-mixture based approach to spatial image background modeling and compensation SARANLI A.

15th European Signal Processing Conference, EUSIPCO 2007, Poznan, Poland, 3 - 07 September 2007, pp.1457-1461

XXIII. Resource allocation modelling using methods of feasible directions in phased array radar systems IRCI A., SARANLI A., BAYKAL B.

2007 IET International Conference on Radar Systems, 15 - 18 October 2007

XXIV. Development of a MATLAB based target tracking simulation environment Bir MATLAB tabanli hedef İzleme benzetim ortaminin geliştirilmesi Aslan M. Ş., SARANLI A., BAYKAL B.
2006 UER 14th Simulation and Section 100000 (20000)

2006 IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 17 - 19 April 2006, vol.2006

XXV. A new approach to increase performance of Rapidly-Exploring Random Trees (RRT) in mobile robotics Mobil robotikte Hizli-Keşfeden Rastlansal Ağaçların (HKRA) performansını arttıran yeni bir yaklaşım

Ege E., SARANLI A.

2006 IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 17 - 19 April 2006, vol.2006 XXVI. On optimal resource allocation in multifunction radar systems

Irci A., SARANLI A., BAYKAL B.

2006 IEEE Radar Conference, Verona, Italy, 24 - 27 April 2006, pp.684-685

XXVII. A real-time optimal resource allocation approach in a radar system Irci A., Saranli A., BAYKAL B. IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.846-847 XXVIII. Scan-line quality inspection of strip materials using 1-D radial basis function network Saranli A. 1st International Conference on Computer Vision Theory and Applications, Setubal, Portugal, 25 - 28 February 2006, pp.19-26 A unified view of rank-based decision combination XXIX. Saranli A., Demirekler M. 15th International Conference on Pattern Recognition (ICPR-2000), Barcelona, Spain, 3 - 07 September 2000, pp.479-482 XXX. A study on improving decisions in closed set speaker identification Demirekler M., Saranli A. 1997 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 97), Munich, Germany, 21 - 24 April 1997, pp 1127-1130 XXXI. Study on improving decisions in closed set speaker identification Demirekler M., SARANLI A.

Proceedings of the 1997 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP. Part 1 (of 5), Munich, Germany, 21 - 24 April 1997, vol.2, pp.1127-1130

Supported Projects

Ankaralı M. M., Saranlı A., Saranlı U., Turgut A. E., Kılıç A., Project Supported by Other Private Institutions, Bacaklı Robotik Sistemleri Geliştirilmesi Projesi , 2024 - 2025

Alatan A. A., Ankaralı M. M., Saranlı A., Kalkan S., Köksal A., Project Supported by Defense Industry, INTEGRATION OF IMAGE PROCESS ALGORITHMS INTO NAVIGATION APPLICATIONS PROJECT, 2022 - 2024

Ankaralı M. M., Saranlı A., Turgut A. E., Kılıç A., Technopark, Özgün Bir Bacaklı Robotik Sistemin Donanımsal ve Yazılımsal Mimarı Tasarımı Projesi , 2022 - 2023

SARANLI A., SOVUKLUK S., YAZICIOĞLU Y., Project Supported by Higher Education Institutions, Kompozit Esnek Yarım Daire Robot Bacaklarının Kuvvet-Esneme Modeli Deneysel Geçerlemesi ve Sistem Tanımlaması, 2018 - 2022 KALKAN S., UĞURLU H. İ., SARANLI A., Project Supported by Higher Education Institutions, İnsansız Hava ve Kara Araçları ile Gezinme, 2018 - 2019

Alatan A. A., Kamışlı F., Akyüz A. O., Temizel A., Halıcı U., Ulusoy İ., Saranlı A., Akar G., Böncü E. S., Çakırgöz Ç. C., Project Supported by Defense Industry, Kent Güvenlik Yönetim Sistemleri için Bilişsel Kamera Geliştirilmesi Projesi , 2018 - 2019 SARANLI A., AKMANDOR N. Ü., Project Supported by Higher Education Institutions, Bir Tepki Tekerleği Tasarımı ile Bacaklı Bir Robotun Dinamik Hareketleri Sırasındaki Dengesinin Arttırılması, 2015 - 2015

SARANLI A., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

SARANLI A., TUBITAK Project, Kıvrak Bacaklı Robotlarda Gürbüz Görsel Algının Işitsel Algı Desteğinde Geliştirilmesi Ve Otonom Navigasyon Amaçlı Uygulanması, 2010 - 2013

Yazıcıoğlu Y., Saranlı A., TUBITAK Project, Kıvrak bacaklı robotlarda gürbüz görsel algının işitsel algıdesteğinde geliştirilmesi ve otonom navigasyonamaçlı uygulanması, 2010 - 2013

SARANLI A., TUBITAK Project, Bacaklı Robotlarda Mobil Arazi Uygulamalarına Yönelik Öz Durum Kestirimi ve Geribeslemeli Dinamik Davranışlar, 2007 - 2010

SARANLI A., TUBITAK Project, ULISAR Çok Maksatlı Ulusal Insansız Sualtı Projesi, 2006 - 2010

SARANLI A., TUBITAK Project, Bacaklı Robotlarda Mobil Arazi Uygulamalarına yönelik Öz Durum Kestirimi ve Geribeslemeli Dinamik Davranışlar, 2007 - 2009

SARANLI A., TUBITAK Project, DAĞINIK AKTİF ALGILAYICI AĞLARINDA VERİ İŞLEME VE TÜMLEŞTİRME ROBOTİK VE SAVUNMA SANAYİİ UYGULAMALARI, 2006 - 2007

Patent

SARANLI A., ethod and Apparatus for Flat Patterned Media Inspection, Patent, CHAPTER H Electricity, Standard Registration, 2008

SARANLI A., Improved Inspection of TFT LCD Panels using On-Demand Automated Optical Inspection Sub-System, Patent, CHAPTER H Electricity, Standard Registration, 2006

SARANLI A., igh Precision Gas-Bearing Split-Axis Stage for Transport and Constraint of Large Flat Flexible Media During Processing, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, Standard Registration, 2006

SARANLI A., ethod and Apparatus for High-Throughput Inspection of Large Patterned Media Using Dynamically Programmable Optical Spatial Filtering, Patent, CHAPTER H Electricity, Standard Registration, 2006

Metrics

Publication: 49 Citation (WoS): 201 Citation (Scopus): 298 H-Index (WoS): 8 H-Index (Scopus): 10

Non Academic Experience

Photon Dynamics Canada Inc.