

Prof. TAYFUN AKIN

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: O-6924-2015

ScopusID: 7004435753

Yoksis Researcher ID: 104090

Education Information

Doctorate, University of Michigan, Electrical Engineering, United States Of America 1989 - 1994

Postgraduate, University of Michigan, Electrical Engineering, United States Of America 1987 - 1989

Undergraduate, Middle East Technical University, Faculty Of Engineering, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1982 - 1987

Research Areas

Electrical and Electronics Engineering, Electronic, Sensing Devices and Transducers, MEMS, Optoelectronic Materials and Devices, Semiconducting Materials and Devices, Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2004 - Continues

Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 1999 - 2004

Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 1995 - 1999

Academic and Administrative Experience

Manager of Research and Application Center, Middle East Technical University, Presidency Office, 2008 - Continues

Head of Department, Middle East Technical University, Graduate School of Natural and Applied Sciences, Mikro Ve Nanoteknoloji (YI) (Tezli), 2013 - 2017

Courses

DIGITAL ELECTRONICS, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018

Advising Theses

- Akın T., Azgın K., HIGH PERFORMANCE MEMS INERTIAL SENSORS, Postgraduate, U.ÇEKMEZ(Student), Continues
- Akın T., Kalay Y. E. , DESIGN AND DEVELOPMENT OF WAFER LEVEL HERMETIC ENCAPSULATION METHOD FOR MEMS CAPACITIVE SENSORS INCLUDING SELF-COOLING SYSTEMS, Doctorate, G.DEMİRHAN(Student), Continues
- Akın T., DEVELOPMENT OF ULTRA LOW-DRIFT MEMS GYROSCOPE, Doctorate, H.DOĞAN(Student), Continues
- Akın T., DIGITALLY CONTROLLED MEMS GYROSCOPE AND ITS MULTIVARIATE CALIBRATION, Doctorate, F.YEŞİL(Student), Continues
- Akın T., DEVELOPMENT OF SMALL PIXEL PITCH AND HIGH PERFORMANCE UNCOOLED INFRARED DETECTOR ARRAY, Doctorate, S.KESKİN(Student), Continues
- Akın T., A LOW-POWER,HIGH-PERFORMANCE ANALOG-TO-DIGITAL CONVERTER INTEGRATED CIRCUIT FOR BIOMEDICAL APPLICATIONS, Doctorate, S.KOÇAK(Student), Continues
- Akın T., Turan R., DEVELOPMENT OF SMALL SIZE UNCOOLED INFRARED MICROBOLOMETER, Postgraduate, B.UTKU(Student), Continues
- Akın T., A NEW APPROACH TO SHUTTERLESS OPERATION OF MICROBOLOMETER BASED INFRARED CAMERAS, Postgraduate, S.ÇAVDAR(Student), 2021
- AKIN T., 125PS LSB column parallel time to digital converter integrated circuit for lidar applications, Postgraduate, O.ÖZPINAR(Student), 2021
- AKIN T., Development of small size uncooled infrared microbolometer pixel, Postgraduate, B.UTKU(Student), 2021
- Akın T., 125PS LSB COLUMN PARALLEL TIME TO DIGITAL CONVERTER INTEGRATED CIRCUIT FOR LIDAR APPLICATIONS, Postgraduate, O.ÖZPINAR(Student), 2021
- Akın T., REAL-TIME FPGA FIRMWARE FOR VGA RESOLUTION INFRARED CAMERA, Postgraduate, K.ÇEVİK(Student), 2019
- Akın T., Demir Ş., PACKAGING OF RF MEMS SWITCHES AND PERFORMANCE IMPROVEMENT, Doctorate, İ.COMART(Student), 2019
- AKIN T., A low power integrated temperature sensor with digital outputsfor on-chip temperature monitoring applications, Postgraduate, Ö.TURAN(Student), 2017
- AKIN T., Advanced circuit architectures for readout electronics of low-cost microbolometer focal plane arrays, Postgraduate, M.HALUK(Student), 2017
- AKIN T., Low-cost microbolometer infrared detectors utilizing cmos resistive layers, Postgraduate, H.ÖZTÜRK(Student), 2017
- KALAY Y. E. , AKIN T., BONDING MATERIAL DEVELOPMENT AT WAFER LEVEL VACUUM PACKAGING FOR MEMS DEVICES BY TRANSIENT LIQUID PHASE (TLP) METHOD, Postgraduate, E.CAN(Student), 2016
- AKIN T., A low-power analog-to-digital converter integrated circuit for data acquisition applications, Postgraduate, S.KOÇAK(Student), 2016
- AKIN T., Design and implementation of perforation on high fill factor structures for uncooled infrared sensors, Postgraduate, R.ÇETİN(Student), 2016
- TURAN R., AKIN T., Light trapping micro and nanostructures fabricated by top down approaches for solar cell applications, Doctorate, H.SERRA(Student), 2016
- AKIN T., Resonance-based MEMS temperature sensors for temperature compensation of mems capacitive accelerometer, Postgraduate, G.DEMİRHAN(Student), 2016
- AKIN T., A small-format microbolometer imaging sensor with digital video outputs, Postgraduate, C.YALÇIN(Student), 2016
- AKIN T., AZGIN K., Development of an integrated resonant mems temperature sensor, Postgraduate, T.KÖSE(Student), 2016
- DEMİR Ş., AKIN T., Design of an x-band 3-bit rf mems constant phase shifter, Postgraduate, A.KUZUBAŞLI(Student), 2016
- TURAN R., AKIN T., Novel metal assisted etching technique for enhanced light management in black crystalline si solar cells, Doctorate, F.ES(Student), 2016
- AKIN T., A readout circuit for resonant mems temperature sensors, Postgraduate, H.ASADI(Student), 2016
- AKIN T., ARIKAN M. A. S. , Development of new, simple, and robust wafer level hermetic packaging methods for MEMS sensors, Doctorate, M.MERT(Student), 2015

AKIN T., A high performance closed-loop analog readout circuit for capacitive MEMS accelerometers, Postgraduate, Y.TERZİOĞLU(Student), 2015

AKIN T., High speed LVDS digital input/output interface circuitries for high resolution imaging sensors /, Postgraduate, S.TUNCER(Student), 2015

AKIN T., 5th order sigma delta MEMS accelerometer system with enhanced linearity, Postgraduate, U.AYKUTLU(Student), 2015

AKIN T., CMOS readout electronics for mis-matched and mode-matched MEMS gyroscopes, Postgraduate, F.Yeşil(Student), 2015

AKIN T., A low-power memory CMOS integrated circuit for image sensors, Postgraduate, M.CEM(Student), 2015

AKIN T., High performance closed-loop analog readout circuit for capacitive MEMS accelerometers, Postgraduate, Y.Terzioğlu(Student), 2015

AKIN T., Design and implementation of high fill factor structures on low-cost uncooled infrared sensors, Postgraduate, O.ERTÜRK(Student), 2015

AKIN T., CMOS readout electronics for mismatched and mode-matched mems gyroscopes, Postgraduate, F.YEŞİL(Student), 2015

AKIN T., A Versatile 5th order sigma-delta modulation circuit for MEMS capacitive accelerometer characterization /, Postgraduate, T.Asgarli(Student), 2014

AKIN T., A digitally programmable application specific integrated circuit for drive and data acquisition of imaging sensors, Postgraduate, N.BAYHAN(Student), 2014

AKIN T., AZGIN K., Correction of temperature and acceleration effects on MEMS gyro output signals /, Postgraduate, M.ALI(Student), 2014

AKIN T., A versatile 5th order sigma-delta modulation circuit for MEMS capacitive accelerometer characterization, Postgraduate, T.ASGARLI(Student), 2014

AKIN T., ARIKAN M. A. S., A THREE AXIS CAPACITIVE MEMS ACCELEROMETER ON A MULTI-STACK SUBSTRATE, Doctorate, S.TEZ(Student), 2014

AKIN T., EMİNOĞLU S., A Digitally programmable application specific integrated circuit for drive and data acquisition of imaging sensorsMethod of moments analysis of slotted waveguide antenna arrays, Postgraduate, N.Bayhan(Student), 2014

AKIN T., AZGIN K., Compensation methods for quasi-static acceleration sensitivity of MEMS gyroscopes, Postgraduate, H.DOĞAN(Student), 2014

AKIN T., A low-power capacitive integrated CMOS readout circuitry for high performance MEMS accelerometers, Postgraduate, O.SAMET(Student), 2013

DURUCAN C., AKIN T., A microbolometer detector based on a sol-gel technology, Doctorate, Ö.DERVİŞOĞLU(Student), 2013

AKIN T., A low-cost uncooled infrared imaging sensor using MEMS and a modified standard CMOS process, Postgraduate, M.ALİ(Student), 2013

AKIN T., Development and characterization of low-cost uncooled infrared sensors for commercial applications, Postgraduate, F.TANKUT(Student), 2013

AKIN T., EMİNOĞLU S., Low---cost uncooled infrared imaging sensor using mems and a modified standard cmos process, Postgraduate, M.Ali(Student), 2013

AKIN T., Camera electronics for low-cost microbolometer type infrared detectors, Postgraduate, C.TÜFEKÇİ(Student), 2013

TURAN R., AKIN T., A Three Axis Capacitive MEMS Accelerometer On A Single Substrate, Doctorate, A.AYDEMİR(Student), 2013

TURAN R., AKIN T., Electrical, optical, and noise characterizations of mwir type-ii inas/gasb superlattice single pixel detectors, Postgraduate, K.KUTLUER(Student), 2012

AKIN T., A successive approximation register analog-to-digital converter for low-cost microbolometers, Postgraduate, Y.UYGAR(Student), 2012

AKIN T., A fully-differential bulk-micromachined MEMS accelerometer with interdigitated fingers, Postgraduate, O.AYDIN(Student), 2012

AKIN T., Camera electronics and image enhancement software for infrared detector arrays, Postgraduate,

A.KÜÇÜKKÖMÜRLER(Student), 2012

AKIN T., A dual-band uncooled infrared microbolometer detector with a tunable micro-mirror, Postgraduate, S.KESKİN(Student), 2012

DURUCAN C., AKIN T., Vanadium oxide (VO_x) thin films elaborated by sol-gel method for microbolometer applications, Postgraduate, K.KARSLI(Student), 2012

AKIN T., A high performance automatic mode-matched MEMS gyroscope, Postgraduate, S.SÖNMEZOĞLU(Student), 2012

AKIN T., An integrated imaging sensor for rare cell detection applications, Postgraduate, Ç.ALTINER(Student), 2012

TURAN R., AKIN T., Development of high performance active materials for microbolometers, Postgraduate, N.EROĞLU(Student), 2011

AKIN T., CMOS integrated sensor readout circuitry for DNA detection applications, Postgraduate, J.MUSAYEV(Student), 2011

AKIN T., Control electronics for MEMS gyroscopes and its implementation in a CMOS technology, Postgraduate, B.EMİNOĞLU(Student), 2011

AKIN T., A low-cost uncooled infrared detector array and its camera electronics, Postgraduate, D.AKÇÖREN(Student), 2011

AKIN T., Development of high fill factor and high performance uncooled infrared detector pixels, Postgraduate, Ş.ESRA(Student), 2011

TURAN R., AKIN T., Development of high performance uncooled infrared detector materials, Postgraduate, B.KEBAPÇI(Student), 2011

AKIN T., ARIKAN M. A. S. , Wafer level vacuum packaging of MEMS sensors and resonators, Postgraduate, M.MERT(Student), 2011

KÜLAH H., AKIN T., Capacitive CMOS readouts for high performance MEMS accelerometers, Postgraduate, U.SÖNMEZ(Student), 2011

AKIN T., Quadrature error compensation and its effects on the performance of fully decoupled mems gyroscopes, Postgraduate, E.TATAR(Student), 2010

AKIN T., A tactical grade MEMS accelerometer, Doctorate, İ.Ender(Student), 2010

AKIN T., Development of High Thermal Performance Uncooled Infrared Detector Pixels with Enhanced Resistor Structures, Postgraduate, Ş.UFUK(Student), 2010

AKIN T., A tactical grade MEMS accelerometer, Doctorate, İ.ENDER(Student), 2010

AKIN T., A monolithic readout circuit for large format uncooled infrared detector focal plane arrays, Doctorate, M.TEPEGÖZ(Student), 2010

TURAN R., AKIN T., Development and Characterization of High TCR Material For Surface Micromachined Microbolometers, Postgraduate, E.CANGA(Student), 2010

AYDIN ÇİVİ H. Ö. , AKIN T., Dual frequency reconfigurable reflectarray antenna of split ring elements with RF MEMS switches, Postgraduate, C.GÜÇLÜ(Student), 2010

DEMİR Ş., AKIN T., Development of MEMs technology based microwave and millimeter-wave components, Postgraduate, Ç.ÇETİNTEPE(Student), 2010

DEMİR Ş., AKIN T., Zero-level packaging of microwave and millimeterwave mems components, Postgraduate, İ.COMART(Student), 2010

DEMİR Ş., AKIN T., Reliability improvement of RF MEMS devices based on lifetime measurements, Postgraduate, O.DOĞAN(Student), 2010

AKIN T., High performance readout and control electronics for MEMS gyroscopes, Postgraduate, E.ŞAHİN(Student), 2009

AKIN T., CMOS readout electronics for microbolometer type infrared detector arrays, Postgraduate, A.TOPRAK(Student), 2009

AKIN T., ADVANCED CMOS READOUT ELECTRONICS FOR UNCOOLED INFRARED DETECTOR ARRAYS, Postgraduate, A.OĞUZ(Student), 2009

DEMİR Ş., AKIN T., NOVEL IMPEDANCE TUNER, PHASE SHIFTER, AND VECTOR MODULATORS USING RF MEMS TECHNOLOGY, Doctorate, M.ÜNLÜ(Student), 2009

KÜLAH H., AKIN T., Capacitive cmos readout circuits for high performance MEMS accelerometers, Postgraduate, R.KEPENEK(Student), 2008

AKIN T., A wide-bandwidth high-sensitivity MEMS gyroscope, Postgraduate, K.ŞAHİN(Student), 2008

AKIN T., A Low Cost 128x128 Uncooled Infrared Detector Array in a Standard SOI CMOS Technology, Postgraduate, E.İNCETÜRKMEN(Student), 2008

AKIN T., Development of High Fill Factor Uncooled Infrared Detector Pixels, Postgraduate, F.ÇİVİTÇİ(Student), 2008

AKIN T., An uncooled infrared microbolometer detector array using surface micromachined mems technology, Doctorate, M.YUSUF(Student), 2007

AKIN T., AYDIN ÇİVİ H. Ö. , A monolithic phased array using RF MEMS technology, Doctorate, K.TOPALLI(Student), 2007

AKIN T., Advanced readout and control electronics for MEMS gyroscopes, Postgraduate, Y.TEMİZ(Student), 2007

AYDIN ÇİVİ H. Ö. , AKIN T., Beam switching reflectarray with RF MEMS technology, Postgraduate, Ö.BAYRAKTAR(Student), 2007

AKIN T., High performance MEMS gyroscopes, Postgraduate, K.AZGIN(Student), 2007

TURAN R., AKIN T., Deep-trench Rie optimization for high performance MEMS microsensors, Postgraduate, A.AYDEMİR(Student), 2007

DEMİR Ş., AKIN T., Design and fabrication of RF MEMS switches and instrumentation for performance evaluation, Postgraduate, H.İBRAHİM(Student), 2007

AKIN T., High performance readout electronics for uncooled infrared detector arrays, Postgraduate, Ö.ÖZGÜR(Student), 2006

AKIN T., High performance CMOS capacitive interface circuits for MEMS gyroscopes, Postgraduate, K.MİTHAT(Student), 2006

AKIN T., KOÇ S. S. , A novel modeling methodology and performance improvement technique for dmtl phase shifters, Postgraduate, İ.İSTANBULLUOĞLU(Student), 2006

DEMİR Ş., AKIN T., Design and implementation of microwave lumped components and system integration using MEMS technology, Postgraduate, E.UFUK(Student), 2006

AKIN T., Development of electrochemical etch-stop techniques for integrated MEMS sensors, Postgraduate, G.CEREN(Student), 2006

AKIN T., Mems gyroscopes for tactical-grade inertial measurement applications, Doctorate, S.Emre(Student), 2005

AKIN T., MEMS gyroscopes for tactical-grade inertial measurement applications, Doctorate, S.EMRE(Student), 2005

AKIN T., Development of test structures and methods for characterization of mems materials, Postgraduate, E.YILDIRIM(Student), 2005

AKIN T., MEMS accelerometers and gyroscopes for inertial measurement units, Postgraduate, M.AKİF(Student), 2004

AKIN T., Humidity sensors using MEMS and standard CMOS technologies, Postgraduate, B.OKCAN(Student), 2003

AKIN T., A 64x64 CMOS integrated readout circuit for infrared photodetector focal plane arrays, Postgraduate, M.Tepeöz(Student), 2003

AKIN T., A frost sensor system using MEMS technology, Postgraduate, Z.SALMAN(Student), 2003

DEMİR Ş., AKIN T., An adjustable impedance matching network using RF MEMS technology, Postgraduate, M.ÜNLÜ(Student), 2003

AKIN T., Uncooled infrared focal plane arrays with integrated readout circuitry using MEMS and standard CMOS technologies, Doctorate, S.EMİNOĞLU(Student), 2003

AKIN T., Surface micromachined capacitive accelerometers using MEMS technology, Postgraduate, R.FIRAT(Student), 2003

AKIN T., A 64X64 CMOS integrated readout circuit for infrared photodetector focal plane arrays, Postgraduate, M.TEPEGÖZ(Student), 2003

AKIN T., A Piezoresistive pressure and temperature sensor cluster, Postgraduate, Ö.ZORLU(Student), 2002

AKIN T., A CMOS compatible uncooled infrared detector focal plane array for night vision applications using MEMS technology, Doctorate, D.SABUNCUOĞLU(Student), 2002

AKIN T., A High fill factor CMOS uncooled infrared microbolometer detector, Postgraduate, M.YUSUF(Student), 2002

AKIN T., A high fill factor CMOS uncooled infrared microbolometer detector., Postgraduate, M.Yusuf(Student), 2002

AKIN T., A silicon micromachined frost sensor for industrial applications, Postgraduate, S.MUTAKA(Student), 2001

AKIN T., Silicon surface micromachined gyroscopes using mems technology, Postgraduate, S.EMRE(Student), 2000

AKIN T., VLSI implementation of low-power current-mode,cmos algorithmic analog-to-digital convertes, Postgraduate, A.Tezel(Student), 1999

AKIN T., VLSI implementation of low-power current mode CMOS algorithmic analog-to-digital converters, Postgraduate, A.TEZEL(Student), 1999

Akın T., Analog-digital mixed-signal VLSI modules for audio signal processing applications, Postgraduate, S.EMİNOĞLU(Student), 1998

Akın T., Silisyum mikroişleme yöntemi ile üretilen endüstriyel ve biomedikal uygulamalar için kapasite basınç sensörleri, Postgraduate, O.ŞEVKET(Student), 1998

Akın T., Infrared thermopile structures using any standart CMOS integrated circuit process, Postgraduate, Z.OLGUN(Student), 1998

Akın T., A CMOS Integrated PtSi Schottky-Barrier Infrared Detector for Night Vision Applications, Postgraduate, H.KÜLAH(Student), 1998

AKIN T., Analog-digital mixed-signal VLSI modules for audio signal processing applications, Postgraduate, S.EMİNOĞLU(Student), 1998

AKIN T., Infrared thermopile structures using any standart CMOS integrated circuit process, Postgraduate, Z.OLGUN(Student), 1998

AKIN T., Silicon micromachined capacitive pressure sensors for industrial and biomedical applications, Postgraduate, O.Şevket(Student), 1998

AKIN T., Analog-digital mixed-signal, VLSI modules for audio band signal processing applications, Postgraduate, S.Eminoğlu(Student), 1998

AKIN T., Infrared thermopile structures using any standard cmos integrated circuit process, Postgraduate, Z.Olgun(Student), 1998

AKIN T., A CMOS integrated PtSi schottky-barrier infrared dedector for night applications, Postgraduate, H.KÜLAH(Student), 1998

AKIN T., A CMOS integrated PtSi schottky-barrier infrared detector for night vision applications., Postgraduate, H.Külah(Student), 1998

Jury Memberships

Post Graduate, Post Graduate, Orta Doğu Teknik Üniversitesi, September, 2020

Appointment Academic Staff, Appointment Academic Staff, Abdullah Gül Üniversitesi, July, 2020

Appointment Academic Staff, Appointment Academic Staff, Abdullah Gül Üniversitesi, February, 2019

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Tuning structural, electrical, and THz optical properties of VxOy films with W-doping**
Atik B., Dirican E., Demirors O., Altan H., Esenturk O., Yildirim M., Akin T.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.903, 2022 (SCI-Expanded)
- II. **An all-silicon process platfom for wafer-level vacuum packaged MEMS devices**
Torunbalci M. M. , Gavcar H. D. , Yesil F., Alper S. E. , AKIN T.
IEEE Sensors Journal, vol.21, no.13, pp.13958-13964, 2021 (SCI-Expanded)
- III. **Interband optical absorption obtained by pseudopotential method for type-II InAs/GaSb SL photodetectors**
Akel K., HOŞTUT M., AKIN T., Ergun Y.
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.54, no.19, 2021 (SCI-Expanded)
- IV. **Wafer-Level Low-Temperature Solid-Liquid Inter-Diffusion Bonding With Thin Au-Sn Layers for MEMS Encapsulation**
Temel O., KALAY Y. E. , AKIN T.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.30, no.1, pp.64-71, 2021 (SCI-Expanded)
- V. **Realization of Single Layer Microbolometer Detector Pixel Using ZnO Material**
Tanrikulu M. Y. , Yildizak C., Okyay A. K. , Akar O., Sarac A., AKIN T.

IEEE SENSORS JOURNAL, vol.20, no.17, pp.9677-9684, 2020 (SCI-Expanded)

- VI. **Development and Modeling of a Wafer-Level BCB Packaging Method for Capacitive RF MEMS Switches**
Comart I., Cetintepe C., Sagiroglu E., DEMİR Ş., AKIN T.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.28, no.4, pp.724-731, 2019 (SCI-Expanded)
- VII. **The detailed analysis of wavefunction overlaps for InAs/AlSb/GaSb based N-structure type-II SL pin photodetectors**
Hostut M., Tansel T., Kilic A., Akin T., Ergun Y.
PHYSICA SCRIPTA, vol.94, no.7, 2019 (SCI-Expanded)
- VIII. **Numerical and Experimental Investigation into LWIR Transmission Performance of Complementary Silicon Subwavelength Antireflection Grating (SWARG) Structures**
Cetin R., AKIN T.
SCIENTIFIC REPORTS, vol.9, 2019 (SCI-Expanded)
- IX. **Microwave Engineering Expertise in Turkey**
Yarman B. S. , Palamutcuogullari O., Kaya I., Kizilbey O., Aksen A., Akin T., Ozkan Z. L. , Oksar I., Nesimoglu T.
IEEE MICROWAVE MAGAZINE, vol.19, no.3, pp.135-140, 2018 (SCI-Expanded)
- X. **A folded leg Ka-band RF MEMS shunt switch with amorphous silicon (a-Si) sacrificial layer**
Demirel K., Yazgan E., Demir Ş., Akin T.
MICROSYSTEM TECHNOLOGIES-MICRO-AND NANOSYSTEMS-INFORMATION STORAGE AND PROCESSING SYSTEMS, vol.23, pp.1191-1200, 2017 (SCI-Expanded)
- XI. **A new design and a fabrication approach to realize a high performance three axes capacitive MEMS accelerometer**
Aydemir A., Terzioglu Y., AKIN T.
SENSORS AND ACTUATORS A-PHYSICAL, vol.244, pp.324-333, 2016 (SCI-Expanded)
- XII. **Design and fabrication of a high performance resonant MEMS temperature sensor**
Kose T., AZGIN K., Akin T.
JOURNAL OF MICROMECHANICS AND MICROENGINEERING, vol.26, no.4, 2016 (SCI-Expanded)
- XIII. **A New Temperature-Tolerant RF MEMS Switch Structure Design and Fabrication for Ka-Band Applications**
Demirel K., Yazgan E., Demir Ş., Akin T.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.25, pp.60-68, 2016 (SCI-Expanded)
- XIV. **A method for wafer level hermetic packaging of SOI-MEMS devices with embedded vertical feedthroughs using advanced MEMS process**
Torunbalci M. M. , Alper S. E. , Akin T.
JOURNAL OF MICROMECHANICS AND MICROENGINEERING, vol.25, 2015 (SCI-Expanded)
- XV. **A Bulk-Micromachined Three-Axis Capacitive MEMS Accelerometer on a Single Die**
TEZ S., Aykutlu U., Torunbalci M. M. , AKIN T.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.24, no.5, pp.1264-1274, 2015 (SCI-Expanded)
- XVI. **Cantilever type radio frequency microelectromechanical systems shunt capacitive switch design and fabrication**
Demirel K., Yazgan E., Demir Ş., Akin T.
JOURNAL OF MICRO-NANOLITHOGRAPHY MEMS AND MOEMS, vol.14, 2015 (SCI-Expanded)
- XVII. **Advanced MEMS Process for Wafer Level Hermetic Encapsulation of MEMS Devices Using SOI Cap Wafers With Vertical Feedthroughs**
Torunbalci M. M. , Alper S. E. , Akin T.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.24, pp.556-564, 2015 (SCI-Expanded)
- XVIII. **Wafer level hermetic sealing of MEMS devices with vertical feedthroughs using anodic bonding**
Torunbalci M. M. , Alper S. E. , AKIN T.
SENSORS AND ACTUATORS A-PHYSICAL, vol.224, pp.169-176, 2015 (SCI-Expanded)
- XIX. **Atomic-layer-deposited zinc oxide as tunable uncooled infrared microbolometer material**
Battal E., Bolat S., TANRIKULU M. Y. , OKYAY A. K. , AKIN T.

- PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE, vol.211, no.11, pp.2475-2482, 2014 (SCI-Expanded)
- XX. **A Sigma Delta micro accelerometer with 6 μ g/ $\sqrt{\text{Hz}}$ resolution and 130 dB dynamic range**
Sonmez U., Kulah H., Akin T.
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.81, no.2, pp.471-485, 2014 (SCI-Expanded)
- XXI. **A fabrication process based on structural layer formation using Au-Au thermocompression bonding for RF MEMS capacitive switches and their performance**
Cetintepe C., Topalli E. S., Demir Ş., Civi O. A., Akin T.
INTERNATIONAL JOURNAL OF MICROWAVE AND WIRELESS TECHNOLOGIES, vol.6, pp.473-480, 2014 (SCI-Expanded)
- XXII. **Capturing and detection of MCF-7 breast cancer cells with a CMOS image sensor**
Musayev J., Altiner C., Adiguzel Y., KÜLAH H., Eminoglu S., AKIN T.
SENSORS AND ACTUATORS A-PHYSICAL, vol.215, pp.105-114, 2014 (SCI-Expanded)
- XXIII. **Microwave Characterization of a Wafer-Level Packaging Approach for RF MEMS Devices Using Glass Frit Bonding**
Comart I., Topalli K., DEMİR Ş., AKIN T.
IEEE SENSORS JOURNAL, vol.14, no.6, pp.2006-2011, 2014 (SCI-Expanded)
- XXIV. **Label-Free DNA Detection Using a Charge Sensitive CMOS Microarray Sensor Chip**
Musayev J., Adiguzel Y., KÜLAH H., Eminoglu S., AKIN T.
IEEE SENSORS JOURNAL, vol.14, no.5, pp.1608-1616, 2014 (SCI-Expanded)
- XXV. **An Automatically Mode-Matched MEMS Gyroscope With Wide and Tunable Bandwidth**
Sonmezoglu S., Alper S. E., Akin T.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.23, pp.284-297, 2014 (SCI-Expanded)
- XXVI. **A Bulk-Micromachined Fully Differential MEMS Accelerometer With Split Interdigitated Fingers**
Aydin O., Akin T.
IEEE SENSORS JOURNAL, vol.13, pp.2914-2921, 2013 (SCI-Expanded)
- XXVII. **A 15-40-GHz Frequency Reconfigurable RF MEMS Phase Shifter**
Ünlü M., Demir Ş., Akin T.
IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, vol.61, pp.2865-2877, 2013 (SCI-Expanded)
- XXVIII. **Ultrahigh-Dynamic-Range Resonant MEMS Load Cells for Micromechanical Test Frames**
Azgin K., Akin T., Valdevit L.
JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, vol.21, no.6, pp.1519-1529, 2012 (SCI-Expanded)
- XXIX. **Triple stub circuit topology as simultaneous insertion phase, amplitude and impedance control circuit for phased array applications**
Unlu M., Demir Ş., Akin T.
IET MICROWAVES ANTENNAS & PROPAGATION, vol.6, pp.1399-1406, 2012 (SCI-Expanded)
- XXX. **Prevention of sidewall redeposition of etched byproducts in the dry Au etch process**
Aydemir A., Akin T.
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Supported Projects

ASİL ALPTEKİN D., ERTÜRK O., AKIN T., Project Supported by Higher Education Institutions, PbSe Koloidal Kuantum Noktacık Tabanlı Yüksek Çözünürlüklü, Kısa Dalga Boylu Kızılötesi Görüntüleme Sensörleri için Detektör Dizini Geliştirilmesi, 2017 - 2019
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Patent

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Scientific Refereeing

Completed Thesis Study, TÜRKİYE TEKNOLOJİ GELİŞTİRME VAKFI 2018 DR. AKIN ÇAKMAKÇI ÖDÜLÜ, TTGV, Turkey, November 2018

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Tasks In Event Organizations

Akın T., SPIE Defense & Commercial Sensing Symposium, Infrared Technology and Applications XLV, Scientific Congress, Maryland, United States Of America, Nisan 2019

Akın T., SPIE Defence and Commercial Sensing Symposium, Infrared Technology and Applications XLIV, Scientific Congress, Florida, United States Of America, Nisan 2018

Mobility Activity

Improving Competencies and Qualifications, Other, NTHU, Taiwan, 2018 - 2018

Metrics

Publication: 251

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H-Index (WoS): 27

H-Index (Scopus): 31

Congress and Symposium Activities

“MEMS 2020 , The 33rd IEEE International Conference on Micro Electro Mechanical Systems “, Invited Speaker, Vancouver, Canada, 2020

21 st Milipol Paris 2019, Audience, Paris, France, 2019

ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ KONGRESİ 2019 , Invited Speaker, İstanbul, Turkey, 2019

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30th AMC-Asian Advanced Materials , Attendee, Singapore, Singapore, 2019

TEKNOFEST 2019, Attendee, İstanbul, Turkey, 2019

20th International Conference on Solid-State Sensors, Actuators and Microsystems, Transducers 2019, Audience, Berlin, Germany, 2019

2018 43rd International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), Attendee, Nagoya, Japan, 2018

International Security and Defence Conference, Invited Speaker, Ankara, Turkey, 2018

SEDEC (SECURITY & DEFENCE CONFERENCE) 2018, Working Group, Ankara, Turkey, 2018

National NanoFab Center” da gerçekleşecek olan 3. Eureka Project’in “Development and Implementation of MEMS and CMOS based on the uncooled infrared detectors” konulu çalıştay, Working Group, Seoul, South Korea, 2018

SPIE Photonics West, Audience, California, United States Of America, 2018

Invited Talks

Çukurova Üniversitesi 2019-2020 Akademik Yılı açılış töreninde, açılış dersini vermek üzere davetli olarak katılım., Seminar, Çukurova Üniversitesi, Turkey, September 2019

Turkey-Taiwan Electronics and Optoelectronics Semiconductor, Seminar, TÜBİTAK, Turkey, June 2019

BURSA ULUDAĞ ÜNV. PROF. DR. FUAT SEZGİN VIII. BİLGİLENDİRME VE AR-GE GÜNLERİ, Seminar, Bursa Uludağ Üniversitesi, Turkey, March 2019

18th China International Optoelectronic Expo 2016” içindeki “1st Executive Infrared Imaging Forum : From Niche to Large Volume Applications” isimli etkinlik, Seminar, Yole Development , China, September 2016

20th NanoEngineering and MicroSystem Technology Conference (NMC’16) , Conference, 20th NanoEngineering and MicroSystem Technology Conference (NMC’16) , Taiwan, August 2016

Infrared Array Sensor Forum, Seminar, Ritsumeikan Üniversitesi, Japan, July 2016

Awards

Akın T., Mikroelektronik ve Mikrosensörler Konusundaki Özgün Çalışmalar, Orta Doğu Teknik Üniversitesi, June 1996