

Curriculum vitae

Assistant Professor Saffettin YILDIRIM



Contact information

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Degrees

1991-1996 PhD. Physics, Istanbul University, Istanbul, Turkey

Thesis Entitled "*Modification of the Barrier Height of Al-GaAs(001) Schottky Diodes by means of a Silicon Interface Layer*"
[Supervised by Prof. Yani Iskarlatos]

1988-1991 MSc. Physics, Istanbul University, Istanbul, Turkey;

Thesis Entitled "*The investigation of injection mechanisms in Metal-Semiconductor/Semiinsulator junction*"
[Supervised by Prof. Yani Iskarlatos]

1983-1988 BSc. Physics, Istanbul University, Istanbul, Turkey

Employment

1999 – 2014 Assistant Professor, Department of Physics, Istanbul University

1990 – 1998 Research Assistant, Department of Physics, Istanbul University

Visiting Positions

February 1992 – February 1993 Italian laboratory TASC INFN Trieste, ITALY, Researcher

July 1993 – October 1993 Italian laboratory TASC INFN Trieste, ITALY, Researcher

August 1994 – January 1995 Italian laboratory TASC INFN Trieste, ITALY, Researcher

Scholarly activities (posters and lectures)

Yanık S., Yanık C. , Yildirim S., Yılmaz M.B., "THE INVESTIGATION OF ELECTRICAL AND MECHANICAL PROPERTIES OF GRAPHENE/GRAPHENE OXIDE HYBRID STRUCTURES", Türk Fizik Derneği 33. Uluslararası Fizik Kongresi, MUĞLA, TÜRKİYE, 6-10 Eylül 2017, vol.33, pp.87-87

Yildirim S., Tavşanoğlu T., Zayim Özkan E., Ağırseven O., Yücel O., "Optical,Electrical and Structural of SiC Thin Film Deposited by Reactive DC magnetron Sputtering", 10. International Conference on Material Science&Engineering BRAMAT 2017, Braşov, ROMANYA, 8-11 Mart 2017, pp.156-156

Yildirim S., Koç M., "Electrical properties of TlSbS₂ Semiconductors", Türk Fizik Derneği 32. Uluslararası Fizik Kongresi , MUĞLA, TÜRKİYE, 6-9 Eylül 2016, vol.32, no.32, pp.23-23

Yildirim S., Koç M., "Electrical and Dielectric Properties of TlSbS₂ Semiconductors", NanoTR12, KOCAELİ, TÜRKİYE, 3-5 Haziran 2016, vol.20, no.6, pp.26-26

Nutku F., Sarcan F., Dönmez Ö., Kuruoğlu F., Mutlu S., Erol A., et al., "Temperature and electric field dependence of localization in modulation doped GaInNAs/GaAs quantum well structures", 9th International Physics Conference of the Balkan Physical Union-BPU9, İSTANBUL, TÜRKİYE, 24-27 Ağustos 2015, pp.161-161

Nutku F., Sarcan F., Dönmez Ö., Kuruoğlu F., Mutlu S., Erol A., et al., "Weak Localization and Weak Antilocalization in n- and p-type Modulation Doped GaInNAs/GaAs Quantum Wells", İstanbul Üniversitesi Dünya Teknoloji, İnovasyon ve Girişimcilik Konferansı, İSTANBUL, TÜRKİYE, 28-30 Mayıs 2015, İSTANBUL, TÜRKİYE, 28-30 Mayıs 2015, ss.80-80

Deniz M. , Sariboğa V., Yildirim S., Deligöz H., "EPOKSİ/ POLİSİYANURAT HARMANLARIN YÜZEY VE MEKANİK ÖZELİKLERİNİN İNCELENMESİ", 11. Ulusal Kimya Mühendisliği Kongresi, İSTANBUL, TÜRKİYE, 2-5 Eylül 2014, ss.348-349

Dielectrical propertis of Polycyanurates (PCN) Polymer materials. (Poster)

Saffettin Yıldırım, Merve Deniz, Hüseyin Deligöz

Turkish Physical Society, 30th International Physics Congress, 2 – 5 September 2013 vol.30, pp.126, Muğla-Bodrum, TURKEY

The investigation of Dielectrical mechanisms of Polymer Nanocomposites depend on Nano-filler dispersion.

S.YILDIRIM, K. PEHLİVAN

Turkish Physical Society, 29th International Physics Congress, 5 – 8 September 2012 vol.29, pp.149, Muğla-Bodrum, TURKEY

High Temperature Thermoelectric Properties of Yb, In and Sr Filled CoSb₃ Based Skutterudite Compounds

S.YILDIRIM, S. BALLIKAYA, N. ÜZAR

Turkish Physical Society, 28th International Physics Congress, 6 – 9 September 2011, Muğla-Bodrum, TURKEY

Recent Developments in Thermoelectric Materials; Nano-Structure and Multiple Filling Skutterudite Compounds

S.YILDIRIM, S. BALLIKAYA, N. ÜZAR

Turkish Physical Society, 28th International Physics Congress, 6 – 9 September 2011 Muğla-Bodrum, TURKEY,

Structural Properties of In-In₂O₃ Composite Films

K. Ulutaş, D. Değer, N. Kalkan, S. Yıldırım, Y. G. Çelebi, Y. Iskarlatos, M. L. Öveçoğlu, A. Genç
EURODIM 2010, 11th Europhysical Conference on Defects in Insulating Materials PECS,
Hungary, 12 -16 July 2010

AC conductivity of TlSbSe₂ Thin Films

D. Değer, K.Ulutaş, S. Yıldırım, N. Kalkan
EURODIM 2010, 11th Europhysical Conference on Defects in Insulating Materials PECS,
Hungary, 12 -16 July 2010

Space Charge Limited Conduction in TlSbSe₂ Chalcogenide Semiconductors

N. Kalkan, S. Yıldırım, D. Değer, K.Ulutaş
EURODIM 2010, 11th Europhysical Conference on Defects in Insulating Materials PECS,
Hungary, 12 -16 July 2010

Relaxation spectrum of the TlSbSe₂ thin films

D. Değer, K.Ulutaş, N. Kalkan, S. Yıldırım
ICDS-25 25th International Conference on Defects in Semiconductors, St
Petersburg, July 20-24, 2009

Estimation of Nano Filler Dispersion in Polymer Nanocomposites by Dielectric
Spectroscopy.

S. Yildirim, A. Durmuş, C.W. Macosko, A. Kaşgöz, H. Deligöz.
Turkish Physical Society 25th International Physical Congress 25-29 August 2008 Bodrum-
TURKEY

TlSbSe₂ ve TlSbS₂ ince filmlerinde dielektriksel özellikler ve iletkenlik.

S. Yildirim, N. Kalkan, K. Ulutaş, D. Değer, Y. G. Çelebi, Türk Fizik Derneği 24. Uluslararası
Fizik Kongresi 28-31 Ağustos 2007, İnönü Üniversitesi, Malatya-TURKİYE

The Conductivity properties of TlBi(Se_{1-x}S_x) crystals.

S. Ballıkaya and S. Yildirim, American Institute of Physics, Conference proceedings – April
23, 2007, Volume 899, p585. 6 th International Conference of the Balkan Physical Union,
22-26 August 2006

Research Areas

Thin Film Physics, Molecular Beam Epitaxy growth technology of II –VI compounds,
Electrical and dielectrical characterization of semiconductor, semiinsulator, polymer
materials.

Supervised Thesis

2 MSc (completed), 1 PhD (continue)

Membership of Professional Societies

Turkish Physics Society

Computer skills

MS Office programs, Origin, Kaleidagraph, Labview

Research Projects

Modülasyon katkılı GaBiAs kuantum kuyulu yapıların optik ve elektrik transport özelliklerinin incelenmesi, (Researcher), Istanbul University, Project Grant: 100000TL 2017

Uyumsuz Yarıiletken Alaşımların Optoelektronik Davranışlarının İncelenmesi. (Director), Istanbul University, Project Grant: 100000TL, 2016

Enerji verimliliğinin artırılmasına yönelik malzemelerin üretimi ve karakteristik özelliklerinin incelenmesi. (Researcher), Istanbul University, Project Grant: 800000TL, 2012

Dielectrical properties and conductivity of TISbS₂ ve TISbSe₂ thin films, (Director), Istanbul University, Project Grant: 21500TL, 2006

Publications

SCI Papers

Deniz M., Sariboğa V., Yildirim S., Deligöz H., "Influence of epoxy addition on the thermal, mechanical, and dielectrical properties of polycyanurate films (accepted manuscript)", POLYMER ENGINEERING AND SCIENCE, vol.early view, pp.1-10, 2017

Nutku F., Dönmez Ö., Çokduygular E., Sarcan F., Kuruoğlu F., Mutlu S., et al., "Effect of thermal annealing and nitrogen composition on quantum transport in GaInNAs alloy based modulation doped quantum well structures", JOURNAL OF ALLOYS AND COMPOUNDS, vol.695, pp.404-409, 2017

Sarcan F., Nutku F., Dönmez Ö., Kuruoğlu F., Mutlu S., Erol A., et al., "Quantum oscillations and interference effects in strained n- and p-type modulation doped GaInNAs/GaAs quantum wells", JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.48, pp.305108-305116, 2015

Ballikaya, Sedat; Uzar, Neslihan; Yildirim, Saffettin; et al. "Lower Thermal Conductivity and Higher Thermoelectric Performance of Fe-Substituted and Ce, Yb Double-Filled p-Type Skutterudites", JOURNAL OF ELECTRONIC MATERIALS Vol. 42 Issue: 7 Pages: 1622-1627 JUL 2013

Ballikaya S., Üzar N., Yildirim S., Salvador J., "Electrical And Thermal Properties Of Fe Substituted Double-Filled Baxbyfezco₄_Zsb₁₂ Skutterudites", Journal of Solid State Chemistry, vol.197, pp.440-446, 2013

Gülşen S., Yildirim S., Deligöz H., "Preparation, Characterization And Dielectric Properties Of Polycyanurate Films Cyclotrimerized In The Presence Of Different Catalysts", POLYMER ENGINEERING AND SCIENCE, vol.23, pp.213-217, 2012

Sedat Ballikaya, Neslihan Uzar, Saffettin Yildirim, James R. Salvador, Ctirad Uher "High thermoelectric performance of In, Yb, Ce multiple filled CoSb₃ based skutterudite compounds", Journal of Solid State Chemistry, 27 March 2012

K. Ulutaş¹, D. Değer¹, N. Kalkan¹, S. Yıldırım¹, Y. G. Çelebi¹, Y. Iskarlatos¹, M. L. Öveçoğlu³, A. Genç⁴, "Structural Properties on In-In₂O₃ composite films", Materials Science and Engineering 15 (2010), 012095

D. Değer, K. Ulutaş, S. Yıldırım, N. Kalkan, " Relaxation spectrum of TISbSe₂ thin films",

PHYSICA B 404, DEC 2009, 5231-5233

N. Kalkan, S. Yıldırım, K. Ulutaş, D. Değer, "Electrical Switching in TISbSe₂ Chalcogenide Semiconductors", JOURNAL OF ELECTRONIC MATERIALS, FEB 2008; 37, 2; pg.157

Hüseyin Deligöz, Tuncer Yalcinyuva, Saadet Özgümüş, Saffettin Yildirim, "Preparation, Characterization and Dielectric Properties of 4,4-diphenylmethane diisocyanate (MDI) Based Cross-Linked Polyimide Films", EUROPEAN POLYMER JOURNAL 42 (6): 1370-1377 JUN 2006

Deligoz H., Yalcinyuva T., Ozgumus S., Yildirim S., "Electrical properties of conventional polyimide films: Effects of chemical structure and water uptake", JOURNAL OF APPLIED POLYMER SCIENCE 100 (1): 810-818 APR 5 2006

Ulutas K., Kalkan N., Yildirim S., Deger D., "Conduction mechanisms in TISbSe₂ chalcogenides", CRYSTAL RESEARCH AND TECHNOLOGY 40 (9): 898-900 SEP 2005

Kalkan N., Yildirim S., Deger D., Ulutas K., Celebi Y.G., "Dc conduction properties of TISbSe₂ crystals", MATERIALS RESEARCH BULLETIN 40 (6): 936-941 JUN 15 2005

Deligoz H., Ozgumus S., Yalcinyuva T., Yildirim S., Deger D., Ulutas K., "A novel cross-linked polyimide film: synthesis and dielectric properties", POLYMER 46 (11): 3720-3729 MAY 11 2005

Yildirim S., Ulutas K., Deger D., Zayim E.O., Turhan I., "Dielectric properties of sol-gel derived Ta₂O₅ thin films", VACUUM 77 (3): 329-335 FEB 18 2005

L. Sorba, S. Yildirim, M. Lazzarino and A. Franciosi, D. Chialo and F. Beltram, "Thermal Stability of Engineered Schottky Barriers in Al/Si/GaAs(001) Diodes", Appl.Phys. Lett. 69(13), 1927, 1996

M. Cantile, L. Sorba, P. Faraci, S. Yildirim G. Biasol and A. Franciosi, T. J. Miller and M. I. Nathan, L. Tapfer, "Modification of Al/GaAs(001) Schottky Barriers by means of Heterovalent Interface Layers", J. Vac. Sci. Technol. B12(4), 2653, 1994

M. Cantile, L. Sorba, S. Yildirim, P. Faraci, G. Biasol and A. Franciosi, T. J. Miller and M. I. Nathan., "Silicon-Induced Local Interface Dipole in Al/GaAs(001) Schottky Diodes", Appl. Phys. Lett. 64(8), 988, 1994

M. Cantile, S. Yildirim, L. Sorba, A. Franciosi, "Internal Photoemission Studies of Artificial Band Discontinuities at Buried GaAs/GaAs Homo Junctions", Appl. Phys. Lett. 64, 2111, 1994.