

Curriculum Vitae

Assoc. Prof. Dr. Sefer Bora Lisesivdin,
BSc (Engineering), MSc, PhD, SMIEEE

CONTACT INFORMATION

(1) Department of Physics

Gazi University, Ankara, Turkey 06500

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EDUCATION

- 2008 Ph.D. Physics, Gazi University, Ankara, Turkey
Dissertation: Electron and Magneto Transport Properties of AlGa_N/Ga_N Based High Electron Mobility Transistors (HEMTs)
Advisor: Prof. Dr. Mehmet Kasap
- 2005 M.Sc. Advanced Technologies, Gazi University, Ankara, Turkey
Thesis: Transport Properties of InGaAs/GaAs and AlGaAs/GaAs Semiconductors Grown by MBE
Advisor: Assoc. Prof. Dr. Mehmet Kasap
- 2002 B.Sc (Eng). Physics Engineering, Hacettepe University, Ankara Turkey
Senior Project: Development of X-Ray Data Analysis Software for Windows Systems

RESEARCH INTERESTS

Experimental and numerical investigation of electron and magnetotransport properties, strain, persistent photoconductivity, hot-electron transport properties, Shubnikov de Hass parameters and quantum parameters of 2 dimensional gas (2DEG) of III-V group semiconductor materials including, GaAs, GaN, InGa_N, TiO₂ bulks and AlGa_N/Ga_N, AlGa_N/(Al_N)/Ga_N, AlGa_N/(Al_N)/Ga_N/Al_N, AlIn_N/Al_N/Ga_N/Al_N and AlIn_N/Al_N/InGa_N/Al_N heterostructures, MgZnO/ZnO, BeZnO/ZnO heterostructures and graphene.

Numerical investigation of transport properties of low-dimensional systems as Quantum dots (0D), Quantum wires (1D), Quantum wells (2D),

SCHOLARSHIPS / FELLOWSHIPS / AWARDS

- 2016 **Turkish Academy of Sciences, Distinguished Young Scientist Award**
- 2015 **IEEE Senior Membership**
- 2015 SCI-indexed Publication Award, Gazi University, Ankara, Turkey.
- 2015 Duty Award, Gazi University Faculty of Science, Ankara, Turkey.
- 2014 **Turkish Physical Union Prof. Dr. Sevket Erk Outstanding Young Scientist Award.**
- 2014 SCI-indexed Publication Award, Gazi University, Ankara, Turkey.
- 2014 SCI-indexed Citation Award, Gazi University, Ankara, Turkey.
- 2013 TUBITAK 2219 scholarship for postdoc research (6 months).

2007-present	20 publications are promoted through TUBITAK Incentive Program for International Scientific Publications.
2010, 2012	SCI-indexed Publication Award, Gazi University, Ankara, Turkey.
2008-2009	Postdoc fellowship for postdoc studies.
2007-2008	TUBITAK 2214 scholarship for PhD research (6 months).
2007	Progetto Lagrange PhD Scholarship, Politecnico di Torino, Italy (not used due to family issues).
2005-2008	Several project scholarship for M.Sc. and Ph.D. studies.

GRANTS & PROJECT MEMBERSHIPS

Earned grants as a project investigator (PI) or project co-investigator (co-PI)

2017-2020	TUBITAK 1001,116F197, Investigation of Growth Behaviors and 2DEG Properties of MgZnO/ZnO Heterostructures grown by USPECVD Method, PI, Budget, 359 810 TL (approximately 88 600 Euros)
2014-2016	Joint grant of Scientific and Technological Research Council of Turkey and RFBR of Russia, 113F364, Manipulation properties of two-dimensional electronic gas using insitu surface passivation of AlGaIn/GaN heterostructures by molecular beam epitaxy, PI, Budget: 282 910 TL (approximately 97 500 Euros)
2012-2013	University Research Grant, 05-2012/13, Numerical optimization of $Mg_xZn_{1-x}O/ZnO$ and $Be_xZn_{1-x}O/ZnO$ based heterostructure transistors, PI, Budget: 14 889 TL (approximately 6 500 Euros)
2012-2013	University Research Grant, 05-2012/14, Investigation of the effects of transition metal palladium on electronic, structural and optical properties of graphene nanoribbons, PI, Budget: 14 955 TL (approximately 6 500 Euros)

Project memberships

2010-2012	TUBITAK 1002 Support Project, 209T051, MOVPE growth and characterization of epitaxial germanium for infrared photovoltaic and sensor applications, Researcher, Budget: 25k TL (approximately 11k Euros)
2009-2012	TUBITAK 1007 Research Project, 107A012, Researcher, Budget: 4.7 M TL (approximately 2M Euros)
2008-2012	Military Related Research Project, SAVS020, Scholar, Budget: 5.8M TL (approximately 2.5M Euros)
2008-2010	TUBITAK 1001 Research Project, 108T018, Epitaxial growth and characterization of infrared AlGaAs laser diode materials, Scholar, Budget: 358 400 TL (approximately 156k Euros)
2008-2010	TUBITAK (Turkey) – ANCS (Romania) Joint Research Project, TBAG-U/220 (107A584), Studies on synthesis and characterization of TiO ₂ thinfilm nanostructures which have applications in ecological physics, Scholar, Budget: 58k TL (approximately 25k Euros)
2006-2009	Military Related Research Project, SAVM005, Researcher, Budget: 4.7 M TL (approximately 2M Euros)
2006-2007	TUBITAK 1007 Research Project, 105A005, Scholar, Budget: 5.5M TL (approximately 2.4M Euros)

PROFESSIONAL APPOINTMENTS

2013	Academic Visiting Researcher, School of Computer Science and Electronics Engineering, University of Essex, Colchester, UK.
2011-present	Associate Professor, Department of Physics, Faculty of Science, Gazi University, Ankara Turkey
2009-2011	Assistant Professor, Department of Physics, Faculty of Science and Arts, Gazi University, Ankara Turkey
2008-2009	Post-doctoral Researcher, Nanotechnology Research Center, Bilkent University, Ankara, Turkey http://www.nanotam.bilkent.edu.tr

RESEARCH EXPERIENCE

2013	Academic Visiting Researcher, Department of Computing and Electronic Systems University of Essex, Colchester, UK (6 months)
2008-2009	Post-doctoral Researcher, Nanotechnology Research Center, Bilkent University, Ankara, Turkey http://www.nanotam.bilkent.edu.tr
2007-2008	Research Student, Department of Computing and Electronic Systems University of Essex, Colchester, UK (6 months)

TEACHING EXPERIENCE

These courses correspond to a number of more than 2300 students as of this CV's writing time.

Institute of Science, Gazi University, Ankara, Turkey

2016/1	Instructor, Fiz 522 Micro and Nanofabrication Methods
2015/2	Instructor, Fiz 522 Micro and Nanofabrication Methods
2015/1	Instructor, Fiz 522 Micro and Nanofabrication Methods
2014/2	Instructor, Fiz 522 Micro and Nanofabrication Methods
2014/1	Instructor, Fiz 522 Micro and Nanofabrication Methods
2013/2	Instructor, Fiz 522 Micro and Nanofabrication Methods
2013/2	Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
2013/1	Instructor, Fiz 522 Micro and Nanofabrication Methods
2013/1	Instructor, Fiz 524 Physics of Low-dimensional Semiconductors
2012/1	Instructor, Fiz 522 Micro and Nanofabrication Methods

Faculty of Science, Gazi University, Ankara, Turkey

2016/1	Instructor, Fiz 123 Introduction to Nanotechnology
2015/1	Instructor, Fiz 123 Introduction to Nanotechnology
2014/2	Advisor, Fiz 414 Research Project
2014/1	Advisor, Fiz 413 Research Project
2014/1	Instructor, Fiz 123 Introduction to Nanotechnology
2013/1	Advisor, Fiz 413 Research Project
2012/1	Advisor, Fiz 413 Research Project (2 students)
2011/2	Instructor, Enf 102 Basic Computer Usage and Fortran Language (2 groups)
2011/2	Advisor, Fiz 414 Research Project

Faculty of Science and Arts, Gazi University, Ankara, Turkey

2011/1	Advisor, Fiz 413 Research Project
2009/2	Advisor, Fiz 414 Research Project (2 students)

2009/1 Advisor, Fiz 413 Research Project (2 students)

Faculty of Engineering, Gazi University, Ankara, Turkey

2015/2 Instructor, Fiz 104, Physics II (2 groups)
2014/2 Instructor, Fiz 104, Physics II (2 groups)
2013/2 Instructor, Fiz 104, Physics II (4 groups)
2013/1 Instructor, Fiz 103 Physics I (3 groups)
2012/1 Instructor, Fiz 103 Physics I (2 groups)
2011/2 Instructor, Fiz 156 Physics Lab. (Mechanics)
2011/2 Instructor, Fiz 104, Physics II (3 groups)
2011/1 Instructor, Fiz 103 Physics I (3 groups)
2009/2 Instructor, Fiz 156 Physics Lab. (Mechanics)
2009/2 Instructor, Fiz 104, Physics II (2 groups)

Faculty of Dentistry, Gazi University, Ankara, Turkey

2012/1 Instructor, Fzk 111 Physics.

Faculty of Science at Polatli, Gazi University, Polatli, Ankara, Turkey

2012/1 Instructor, Fiz 315 Properties of Matter.

Faculty of Technology, Gazi University, Ankara, Turkey

2014/1 Instructor, Fiz 101 Physics I (2 groups).
2011/1 Instructor, Fiz 101 Physics I.

Faculty of Technical Education, Gazi University, Ankara, Turkey

2011/1 Instructor, Fiz 101 Physics I.
2009/2 Instructor, Fiz 102 Physics II.
2009/1 Instructor, Fiz 101 Physics I (4 groups).

PROFESSIONAL ACTIVITIES

2015 Scientific Committee, 1st International Conference on Organic Electronic
Material Technologies (OEMT-2015) 25-28 March Elazig, Turkey
2015 Scientific Committee, 2nd International Nanoscience and Nanotechnology for
Next Generation (NaNoNG) 29-31 October Antalya, Turkey
2011-2014 Member of board of management of the Photonics Research Center at Gazi
University, Ankara, Turkey. <http://fotonik.gazi.edu.tr>
2004 Member of organizing group of 11th Condensed Matter Ankara Meeting at
Gazi University, Ankara, Turkey.

PROFESSIONAL SERVICES

Editorial Board Member (SCI-indexed) (2013-2016)

PLOS ONE (SCI-indexed. IF 2013: 3.534)

Reviewer (SCI-indexed)

Journal of Physics D – Applied Physics,
Semiconductor Science and Technology,
Nanotechnology,
Applied Physics Letters,

Physica E,
Physica B,
AIP Advances,
Computational Materials Science.

PROFESSIONAL AFFILIATIONS

2005-present Senior Member, IEEE (Institute of Electrical and Electronics Engineers)
2005-present Senior Member, IEEE Electron Devices Society
2006 Member, IEEE Communications Society
2006 Member, SPIE (Society of Photographic Instrumentation Engineers)
Member, Hacettepe University Alumni

SEMINARS

12/2014 “Elektriksel Olarak Pompalanan Seyreltik Azotlu Dikey Kaviteli Yarıiletken Optik Yükselteç” Physics Department, Istanbul University, Istanbul, Turkey.
05/2008 “AlGaIn/GaN-temelli Yüksek Elektron Hareketliliğine Sahip Transistörlerin (HEMTs) Elektron ve Manyeto-iletim Özelliklerinin İncelenmesi (in Turkish)”, Department of Physics, Akdeniz University, Antalya, Turkey.
02/2008 “Investigation of 2DEG parameters in AlGaIn/GaN based heterostructures using QMSA technique” Department of Computing and Electronic Systems, University of Essex, Colchester, UK.

ATTENDED COURSES AND WORKSHOPS

01/2006 I. Adalıgeli, “Solid State Educational Workshop 2006.1 : The Theory of Spin Transport (1 Week)” Feza Gürsey Institute, Istanbul, Turkey.
01/2006 J. Schliemann, “Solid State Educational Workshop 2006.1 : Rashba and Spin-Hall Effects in Quantum Dots (1 Week)” Feza Gürsey Institute, Istanbul, Turkey.
01/2006 E.V. Sukhorukov, “Solid State Educational Workshop 2006.1 : The Physics of Quantum Shot Noise (1 Week)” Feza Gürsey Institute, Istanbul, Turkey.
03-04/2005 R. Gerhardt, “Solid State Educational Workshop 2004.3-2 : Magnetotransport in low-dimensional systems (3 Weeks)”, Bilkent University, Ankara, Turkey.

PUBLICATIONS

Cites and h-index

Index name	Total cite	h-index
<i>Web of Science</i>	520	13
<i>Google Scholar</i>	619	13

Books and Book Chapters

- 1 S. B. Lisesivdin, B. Sarıkavak-Lisesivdin, E. Ozbay “Chapter 18: The Effects of the Interaction of Transition Metals on the Electronic Properties of the Graphene Nanosheets and Nanoribbons” Graphene Science Handbook Vol.3, CRCPress, Taylor&Francis, (2016).

- 2 E. L. Wolf, M. Medikonda, (Transl. eds: B. Sarikavak-Lisesivdin, S. B. Lisesivdin) "Nanoteknoloji Devrimini Anlamak" Nobel Press, (2014).

SCI-Articles

- 57 J. M. All Abbas, G. Atmaca, P. Narin, E. Kutlu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin "A Comparative Study of AlGaN and InGaN Back-Barriers in Ultrathin-Barrier AlN/GaN Heterostructures" *J. Elec. Mater.* **46**, 5278 (2017).
- 56 P. Narin, E. Kutlu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Özbay "Electronic Properties of Li-doped Zigzag Graphene Nanoribbons" *Physica E* **84**, 543 (2016).
- 55 E. Kutlu, P. Narin, G. Atmaca, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Özbay "Effect of As-impurity on Electrical and Optical Properties of β -Si₃N₄ Structure" *Mater. Res. Bull.* **83**, 128 (2016).
- 54 G. Atmaca, S. Ardali, E. Tiras, T. Malin, V. G. Mansurov, K. S. Zhuravlev, S. B. Lisesivdin, "Scattering analysis of 2DEG mobility in undoped and doped AlGaN/AlN/GaN heterostructures with an in situ Si₃N₄ passivation layer", *Solid-State Electronics* **118**, 12-17 (2016).
- 53 I. Kara, Y. Sarikavak, S. B. Lisesivdin, M. Kasap "Evaluation of Morphological and Chemical Differences of Gunshot Residues in Different Ammunitions Using SEM/EDS Technique" *Environ. Foren.* **17**, 68 (2016).
- 52 G. Atmaca, P. Narin, B. Sarikavak-Lisesivdin, S. B. Lisesivdin "Two Dimensional Electron Gas in a Hybrid GaN/InGaN/ZnO Heterostructure with Ultrathin InGaN Channel Layer" *Physica E* **79**, 67 (2016).
- 51 G. Atmaca, S. Ardali, P. Narin, E. Kutlu, S. B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras "Energy relaxation of hot electrons by LO phonon emission in AlGaN/AlN/GaN heterostructure with in situ Si₃N₄ passivation" *J. Alloys Compounds* **659**, 90 (2016).
- 50 S. Ardali, G. Atmaca, S. B. Lisesivdin, T. Malin, V. Mansurov, K. Zhuravlev, E. Tiras "The variation of temperature dependent carrier concentration and mobility in AlGaN/AlN/GaN heterostructure with SiN passivation" *Phys. Stat. Sol. B* **252**, 1960 (2015).
- 49 I. Kara, S. B. Lisesivdin, M. Kasap, E. Er, U. Uzek "The Relationship between the Surface Morphology and Chemical Composition of Gunshot Residue Particles" *J. Foren. Sci.* **60**, 1030 (2015).
- 48 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, N. Balkan, G. Atmaca, P. Narin, H. Cakmak, E. Özbay "Energy relaxation of electrons in InGaN quantum wells" *Metall. Mater. Trans. A* **46**, 1565 (2015).

- 47 G. Atmaca, P. Narin, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, M. Kasap “Electron Transport Properties of Two Dimensional Electron Gas in $\text{Be}_x\text{Zn}_{1-x}\text{O}/\text{ZnO}$ Heterostructures” *Philos. Mag.* **95**, 79 (2015).
- 46 G. Atmaca, P. Tasli, G. Karakoc, E. Yazbahar and S. B. Lisesivdin “Numerical Investigation of the 2DEG Properties of $\text{AlGaIn}/\text{AlN}/\text{GaIn}$ HEMT Structures with $\text{InGaIn}/\text{GaIn}$ MQW Back-Barrier Structure” *Physica E* **65**, 110 (2015).
- 45 O. Donmez, F. Sarcan, S. B. Lisesivdin, M. P. Vaughan, A. Erol, M. Gunes, M. C. Arikan, J. Puustinen and M. Guina, "Analytic modeling of temperature dependence of 2D carrier mobility in as-grown and annealed $\text{GaInNAs}/\text{GaAs}$ quantum well structures" *Semicond. Sci. Technol.* **29**, 125009 (2014).
- 44 S. B. Lisesivdin, G. Atmaca, E. Arslan, S. Cakmakyapan, O. Kazar, S. Butun, Jawad-ul-Hassan, E. Janzén and E. Ozbay “Extraction and scattering analyses of 2D and bulk carriers in epitaxial graphene-on-SiC structure” *Physica E* **63**, 87 (2014).
- 43 E. Arslan, S. Cakmakyapan, O. Kazar, S. Bütün, S. B. Lisesivdin, N. A. Cinel, G. Ertas, S. Ardali, E. Tiras, J. Ul-Hassan, E. Janzén and Ekmel Özbay “SiC substrate effects on electron transport in the epitaxial Graphene layer” *Electron. Mater. Lett.* **10**, 387 (2014).
- 42 S. B. Lisesivdin, N. A. Khan, S. Mazzucato, N. Balkan, M. J. Adams, V.-M. Korpijärvi, M. Guina, G. Mezosi and M. Sorel “Optical gain in 1.3 μm electrically-driven dilute nitride VCSOAs” *Nanoscale Res. Lett.* **9**, 22 (2014).
- 41 K. Elibol, G. Atmaca, P. Tasli, S. B. Lisesivdin “A Numerical Study on Subband Structure of $\text{In}_x\text{Al}_{1-x}\text{N}/\text{GaIn}$ -Based HEMT Structures with Low-Indium ($x < 0.10$) Barrier Layer” *Solid State Commun.* **162**, 8 (2013).
- 40 A. F. Kuloglu, B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “First-principles calculations of Pd-terminated symmetrical armchair graphene nanoribbons” *Comp. Mater. Sci.* **68**, 18 (2013).
- 39 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “The Effect of $\text{In}_x\text{Ga}_{1-x}\text{N}$ Back-barriers on the Dislocation Densities in $\text{Al}_{0.31}\text{Ga}_{0.69}\text{N}/\text{AlN}/\text{GaIn}/\text{In}_x\text{Ga}_{1-x}\text{N}/\text{GaIn}$ Heterostructures ($0.05 \leq x \leq 0.14$)” *Cur. Appl. Phys.* **13**, 224 (2013).
- 38 B. Sarikavak-Lisesivdin, S. B. Lisesivdin, E. Ozbay “Ab initio study of Ru-terminated and Ru-doped armchair graphene nanoribbons” *Mol. Phys.* **110**, 2295 (2012).
- 37 E. Tiras, O. Celik, S. Mutlu, S. Ardali, S. B. Lisesivdin, E. Ozbay “Temperature dependent energy relaxation time in $\text{AlGaIn}/\text{AlN}/\text{GaIn}$ heterostructures” *Superlat. Microstruct.* **51**, 733 (2012).
- 36 O. Celik, E. Tiras, S. Ardali, S. B. Lisesivdin, E. Ozbay “Determination of the LO phonon energy and alloy scattering potential in $\text{AlGaIn}/\text{GaIn}$ HEMT’s” *Cent. Eur. J. Phys.* **10**, 485 (2012).

- 35 O. Kelekci, S. B. Lisesivdin, S.Ozcelik, E. Ozbay “Numerical optimization of In-mole fraction and layer thicknesses in $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{AlN}/\text{GaN}$ high electron mobility transistors with InGaN back barrier” *Physica B* **406**, 1513 (2011).
- 34 A. Yildiz, P. Tasli, B. Sarikavak, S. B. Lisesivdin, M. K. Ozturk, M. Kasap, S. Ozcelik, E. Ozbay “Grain boundary related electrical transport in Al-rich $\text{Al}_x\text{Ga}_{1-x}\text{N}$ layers grown by metal organic chemical vapor deposition” *Semiconductors+* **45**, 33 (2011).
- 33 H. Yu, S. B. Lisesivdin, B. Bolukbas, O. Kelekci, M. K. Ozturk, S. Ozcelik, D. Caliskan, M. Ozturk, H. Cakmak, P. Demirel and E. Ozbay “Improvement of breakdown characteristics in $\text{AlGaIn}/\text{GaIn}/\text{Al}_x\text{Ga}_{1-x}\text{N}$ HEMT based on a grading $\text{Al}_x\text{Ga}_{1-x}\text{N}$ buffer layer” *Phys. Stat. Sol. a* **207**, 2593 (2010).
- 32 P. Tasli, B. Sarikavak, G. Atmaca, K. Elibol, A. F. Kuloglu and S. B. Lisesivdin “Numerical Simulation of Novel Ultrathin Barrier n-GaN/InAlN/AlN/GaN HEMT Structures: Effect of In Mole Fraction, Doping and Layer Thicknesses” *Physica B* **405**, 4020 (2010).
- 31 A. Bengi, S. B. Lisesivdin, M. Kasap, T. Mammadov, S. Ozcelik, E. Ozbay “Analysis of defect related optical transitions in $\text{AlGaIn}/\text{GaIn}$ heterostructures” *Mater. Sci. Semicond. Process.* **13**, 105 (2010).
- 30 S. B. Lisesivdin, A. Yildiz, N. Balkan, M. Kasap, S. Ozcelik, E. Ozbay “Scattering Analysis of Two-dimensional Electrons in $\text{AlGaIn}/\text{GaIn}$ with Bulk Related Parameters Extracted by Simple Parallel Conduction Extraction Method” *J. Appl. Phys.* **108**, 013712 (2010).
- 29 P. Tasli, A. Yildiz, M. Kasap, E. Ozbay, S. B. Lisesivdin and S. Ozcelik “Contributions of the impurity band and electron–electron interactions to the magnetoconductance of AlGaIn ” *Philos. Mag.* **90**, 3591 (2010).
- 28 S. B. Lisesivdin, P. Tasli, M. Kasap, M. Ozturk, E. Arslan, S. Ozcelik, and E. Ozbay, “Double subband occupation of the two-dimensional electron gas in $\text{In}_x\text{Al}_{1-x}\text{N}/\text{AlIn}/\text{GaIn}/\text{AlIn}$ Heterostructures with Low Indium Barrier ($0.064 < x < 0.139$)” *Thin Solid Films* **518**, 5572 (2010).
- 27 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “The substrate temperature effect on the electrical properties of titanium oxide thin films” *J. Mater. Sci.: Mater. Electron.* **21**, 692 (2010).
- 26 S. Gokden, R. Tulek, A. Teke, J. H. Leach, Q. Fan, J. Xie, U. Ozgur, H. Morkoc, S. B. Lisesivdin, E. Ozbay “Mobility limiting scattering mechanisms in nitride-based two-dimensional heterostructures with InGaIn channel” *Semicond. Sci. Technol.* **25**, 045024 (2010).
- 25 A. Yildiz, S. B. Lisesivdin, P. Tasli, E. Ozbay, and M. Kasap “Determination of the critical indium composition corresponding to the metal-insulating transition in $\text{In}_x\text{Ga}_{1-x}\text{N}$ ($0.06 < x < 0.135$) layers” *Curr. Appl. Phys.* **10**, 838 (2010).
- 24 A. Yildiz, S. B. Lisesivdin, M. Kasap, S. Ozcelik, E. Ozbay and N. Balkan “Investigation of low temperature electrical conduction mechanisms in highly resistive GaN bulk layers extracted with SPCEM” *Appl. Phys. A* **98**, 557 (2010).

- 23 P. Tasli, S. B. Lisesivdin, A. Yildiz, M. Kasap, E. Arslan, E. Özbay, and S. Özcelik “Well parameters of the two-dimensional electron gas in $\text{Al}_{0.88}\text{In}_{0.12}\text{N}/\text{AlN}/\text{GaN}/\text{AlN}$ heterostructures grown by MOCVD” *Cryst. Res. Tech.* **45**, 133 (2010).
- 22 S. B. Lisesivdin, E. Ozbay “Effect of various pseudomorphic AlN layer insertions on the electron densities of two-dimensional electron gas in lattice-matched $\text{In}_{0.18}\text{Al}_{0.82}\text{N}/\text{GaN}$ based heterostructures” *Optoelectron. Adv. Mater.: Rapid. Comm.* **3**, 904 (2009).
- 21 A. Yildiz, S. B. Lisesivdin, H. Altuntas, M. Kasap and S. Ozcelik “Electrical conduction properties of Si δ -doped GaAs grown by MBE” *Physica B* **404**, 4202 (2009).
- 20 G. Atmaca, K. Elibol, S. B. Lisesivdin, M. Kasap, E. Ozbay “Numerical optimization of Al-mole fractions and layer thicknesses in normally-on AlGaIn-GaN double-channel high electron mobility transistors (DCHEMTs)” *J. Optoelectron. Adv. Mater.* **11**, 578 (2009).
- 19 A. Teke, S. Gökden, R. Tülek, J. H. Leach, Q. Fan, J. Xie, Ü. Özgür, H. Morkoç, S. B. Lisesivdin, E. Özbay, “The effect of AlN interlayer thicknesses on scattering processes in lattice-matched AlInN/GaN two-dimensional electron gas heterostructures” *New J. Phys.* **11**, 063031 (2009).
- 18 S. B. Lisesivdin, N. Balkan, O. Makarovskiy, A. Patané, A. Yildiz, M. D. Caliskan, M. Kasap, S. Ozcelik, E. Ozbay “Large Zero-Field Spin Splitting in AlGaIn/AlN/GaN/AlN Heterostructures” *J. Appl. Phys.* **105**, 093701 (2009).
- 17 S. B. Lisesivdin, H. Altuntas, A. Yildiz, M. Kasap, E. Ozbay, S. Ozcelik, “DX-center Energy Calculation with Quantitative Mobility Spectrum Analysis in n-AlGaAs/GaAs Structures with Low Al Content” *Superlatt. Microstruct.* **45**, 604 (2009).
- 16 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “Non-adiabatic Small Polaron Hopping Conduction in Nb-doped TiO_2 thin films” *Physica B* **404**, 1423 (2009).
- 15 Y. Sun, N. Balkan, M. Aslan, S. B. Lisesivdin, H. Carrere, M. C. Arikan, X. Marie “Electronic transport in n- and p-type modulation doped $\text{Ga}_x\text{In}_{1-x}\text{N}_y\text{As}_{1-y}/\text{GaAs}$ Quantum Wells” *J. Phys: Condens. Matt.* **21**, 174210 (2009) *Invited Article*.
- 14 S. B. Lisesivdin, N. Balkan, E. Ozbay “A Simple Parallel Conduction Extraction Method (SPCEM) for MODFETs and Undoped GaN-based HEMTs” *Microelectron. J.* **40**, 413 (2009).
- 13 A. Yildiz, S. B. Lisesivdin, M. Kasap, M. Bosi “Anomalous resistivity behaviour in $\text{In}_{0.17}\text{Ga}_{0.83}\text{N}$ ” *Solid State Commun.* **149**, 337 (2009).
- 12 A. Yildiz, S. B. Lisesivdin, M. Kasap, D. Mardare “Electrical Properties of TiO_2 Thin Films” *J. Non-Crys. Solids* **354**, 4944 (2008).
- 11 S. B. Lisesivdin, S. Demirezen, M. D. Caliskan, A. Yildiz, M. Kasap, S. Ozcelik and E. Ozbay “Growth parameters investigation of $\text{Al}_{0.25}\text{Ga}_{0.75}\text{N}/\text{GaN}/\text{AlN}$ heterostructures with Hall Effect Measurements” *Semicond. Sci. Technol.* **23**, 095008 (2008).

- 10 E. Arslan, S. Butun, S. B. Lisesivdin, M. Kasap, S. Ozcelik, and E. Ozbay “The persistent photoconductivity effect in AlGa_N/Ga_N heterostructures grown on sapphire and SiC substrates” *J. Appl. Phys.* **103**, 103701 (2008).
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ADVISING

PhD's

- 3 P. Narin, (Gazi University, Institute of Science, Physics), 2015 - present. Advisor.
- 2 A. F. Kuloglu, (Gazi University, Institute of Science, Physics), 2013 - present. Advisor.
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- 7 J. M. M. J. Al-Abbas, (Gazi University, Institute of Science, Physics), 2014 - 2016. Advisor.

- 6 E. Kutlu, (Gazi University, Institute of Science, Physics), Investigation of the effects of Cadmium Doping on Electronic and Optical Properties of Graphene Nanoribbons, 2014-2016. Advisor.
- 5 A. F. Kuloglu, (Gazi University, Institute of Science, Physics), Investigation of Electronic Properties of Pa-terminated Graphene Nanoribbons, 2010-2012. Advisor.
- 4 G. Atmaca, (Gazi University, Institute of Science, Physics), Numerical Investigation of the 2-Dimensional Carriers in AlQN/AlN/GaN-Based (Q=Ga, In) Transistors with Multi-Quantum Well Back-Barriers, 2010-2012. Advisor.
- 3 K. Elibol, (Gazi University, Institute of Science, Physics), Investigation of Magnetoconductivity and Surface Properties of Exfoliated and Epitaxially Grown Graphene Samples, 2010-2012. Advisor.
- 2 G. Karakoc, (Gazi University, Institute of Science, Physics), Investigating the Electron Transport Properties of AlInN/AlN/(InGaN)/GaN Heterostructures with InGaN Quantum Wells. 2009-2012. Advisor.
- 1 C. Gunes, (Gazi University, Institute of Science, Physics), Electron and magnetotransport investigation of two dimensional electron gas in ultrathin barrier GaN-based heterostructures. 2009-2012. Advisor.

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