

## Prof. EMİNE ÖZTÜRK

### Personal Information

Office Phone: [+90 346 487 1976](tel:+903464871976) Extension: 1976

Email: [eozturk@cumhuriyet.edu.tr](mailto:eozturk@cumhuriyet.edu.tr)

Web: <https://avesis.cumhuriyet.edu.tr/eozturk>



### International Researcher IDs

ORCID: 0000-0003-2508-0863

ScopusID: 7006384179

Yoksis Researcher ID: 2697

### Education Information

Doctorate, Sivas Cumhuriyet University, Fen Fakültesi, Fizik Bölümü, Turkey 1995 - 2000

Postgraduate, Sivas Cumhuriyet University, Fen Fakültesi, Fizik Bölümü, Turkey 1992 - 1994

Undergraduate, Sivas Cumhuriyet University, Fen Fakültesi, Fizik Bölümü, Turkey 1985 - 1989

### Dissertations

Doctorate, DELTA-KATKILI GaAs YAPILARDA ELEKTRONİK YAPI, Sivas Cumhuriyet Üniversitesi, Fen Fakültesi, Fizik Bölümü, 2000

Postgraduate, FARKLI KATKILANMIŞ YARIİLETKEN MALZEMELERİN ARAYÜZEY POTANSİYEL PROFİLLERİNİN BELİRLENMESİ , Sivas Cumhuriyet Üniversitesi, Fen Fakültesi, Fizik Bölümü, 1994

### Published journal articles indexed by SCI, SSCI, and AHCI

#### I. Coupled cylindrical quantum well wires in broken symmetry: effects of intense laser field on the harmonic generations

ALAYDİN B. Ö., ÖZTÜRK O., ALTUN D. D., ÖZTÜRK E.

European Physical Journal Plus, vol.139, no.10, 2024 (SCI-Expanded)

#### II. High harmonic generations triggered by the intense laser field in GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As honeycomb quantum well wires

Alaydin B. Ö., Altun D., Öztürk O., Öztürk E.

Materials Today Physics, vol.38, 2023 (SCI-Expanded)

#### III. High harmonic generations in GaAs/AlGaAs superlattice: Effect of electric and magnetic field

Öztürk E., Altun D., Öztürk O., Alaydin B. Ö.

Solid State Communications, vol.372, 2023 (SCI-Expanded)

#### IV. Linear and nonlinear optical properties of semi-elliptical InAs quantum dots: Effects of wetting layer thickness and electric field

ALAYDİN B. Ö., ALTUN D., ÖZTÜRK E.

Thin Solid Films, vol.755, 2022 (SCI-Expanded)

#### V. Linear and nonlinear optical properties of a superlattice with periodically increased well width under electric and magnetic fields

- ALTUN D. D., ÖZTÜRK O., ALAYDİN B. Ö., ÖZTÜRK E.  
MICRO AND NANOSTRUCTURES, vol.166, 2022 (SCI-Expanded)
- VI. Intense laser field effect on the nonlinear optical properties of triple quantum wells consisting of parabolic and inverse-parabolic quantum wells  
Öztürk O., Alaydin B. Ö., Altun D., Öztürk E.  
Laser Physics, vol.32, no.3, 2022 (SCI-Expanded)
- VII. Depending on the intense laser field of the nonlinear optical rectification, second and third harmonic generation in asymmetric parabolic-step and inverse parabolic-step quantum wells  
ÖZTÜRK O., ÖZTÜRK E., Elagoz S.  
PHYSICA SCRIPTA, vol.94, no.11, 2019 (SCI-Expanded)
- VIII. The effect of intense laser field on the nonlinear optical features in asymmetric multiple step and inverse V-shaped multiple step quantum wells  
Öztürk O., Öztürk E., Elagoz S.  
LASER PHYSICS, vol.29, 2019 (SCI-Expanded)
- IX. Dependence on well widths of total optical absorption coefficient of asymmetric triple GaAlAs/GaAs and GaInAs/GaAs quantum wells  
ÖZTÜRK O., ÖZTÜRK E., Elagoz S.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.33, no.17, 2019 (SCI-Expanded)
- X. Nonlinear Optical Rectification, Second and Third Harmonic Generations in Square-Step and Graded-Step Quantum Wells under Intense Laser Field  
Ozturk O., Ozturk E., Elagoz S.  
CHINESE PHYSICS LETTERS, vol.36, no.6, 2019 (SCI-Expanded)
- XI. Linear and nonlinear optical properties of asymmetric triple quantum wells under intense laser field  
Ozturk O., Ozturk E., Elagoz S.  
LASER PHYSICS, vol.29, no.5, 2019 (SCI-Expanded)
- XII. Linear and nonlinear optical absorption coefficient and electronic features of triple GaAlAs/GaAs and GaInAs/GaAs quantum wells depending on barrier widths  
Ozturk O., Ozturk E., Elagoz S.  
OPTIK, vol.180, pp.394-405, 2019 (SCI-Expanded)
- XIII. The effect of barrier width on the electronic properties of double GaAlAs/GaAs and GaInAs/GaAs quantum wells  
Ozturk O., Ozturk E., Elagoz S.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1156, pp.726-732, 2018 (SCI-Expanded)
- XIV. Interband transitions dependent on indium concentration in Ga<sub>1-x</sub>In<sub>x</sub>As/GaAs asymmetric triple quantum wells  
Alaydin B. Ö., Ozturk E., Elagoz S.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.32, no.5, 2018 (SCI-Expanded)
- XV. Depending on the electric and magnetic field of the linear optical absorption and rectification coefficient in triple quantum well  
ÖZTÜRK E.  
OPTICAL AND QUANTUM ELECTRONICS, vol.49, no.8, 2017 (SCI-Expanded)
- XVI. Comparison of asymmetric double parabolic-inversed parabolic quantum wells for linear optical (1-2) transition  
ÖZTÜRK E.  
OPTIK, vol.139, pp.256-264, 2017 (SCI-Expanded)
- XVII. NONLINEAR TRANSITIONS IN SINGLE, DOUBLE, AND TRIPLE delta-DOPED GaAs STRUCTURES  
Ozturk E.  
ROMANIAN JOURNAL OF PHYSICS, vol.62, 2017 (SCI-Expanded)
- XVIII. Electric and intense laser field effect on the electronic properties of Ga<sub>1-x</sub>Al<sub>x</sub>As/GaAs and Ga(1-x)In(x)As/GaAs semi-parabolic quantum wells  
ÖZTÜRK E.

- LASER PHYSICS, vol.26, no.9, 2016 (SCI-Expanded)
- XIX. **Nonlinear intersubband transitions in asymmetric double quantum wells as dependent on intense laser field**  
ÖZTÜRK E.  
OPTICAL AND QUANTUM ELECTRONICS, vol.48, no.4, 2016 (SCI-Expanded)
- XX. **Linear and total intersubband transitions in the step-like GaAs/GaAlAs asymmetric quantum well as dependent on intense laser field**  
ÖZTÜRK E.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.130, no.11, 2015 (SCI-Expanded)
- XXI. **Comparison of Ga<sub>1-x</sub>Al<sub>x</sub>As/GaAs and Ga(1-x)In(x)As/GaAs quantum wells as dependent on Al and In concentrations under intense laser field**  
Ozturk E.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.29, no.27, 2015 (SCI-Expanded)
- XXII. **Nonlinear intersubband transitions in different shaped quantum wells under intense laser field**  
Ozturk E.  
SUPERLATTICES AND MICROSTRUCTURES, vol.82, pp.303-312, 2015 (SCI-Expanded)
- XXIII. **Linear and nonlinear optical absorption coefficients and refractive index changes in double parabolic-square quantum well as dependent on intense laser field**  
Ozturk E.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.130, no.4, 2015 (SCI-Expanded)
- XXIV. **Resonant peaks of the linear optical absorption and rectification coefficients in GaAs/GaAlAs quantum well: Combined effects of intense laser, electric and magnetic fields**  
ÖZTÜRK E., SÖKMEN İ.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.29, no.5, 2015 (SCI-Expanded)
- XXV. **Nonlinear intersubband absorption and refractive index change in n-type delta-doped GaAs for different donor distributions**  
Ozturk E.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.130, no.1, 2015 (SCI-Expanded)
- XXVI. **Simultaneous effects of the intense laser field and the electric field on the nonlinear optical properties in GaAs/GaAlAs quantum well**  
Ozturk E.  
OPTICS COMMUNICATIONS, vol.332, pp.136-143, 2014 (SCI-Expanded)
- XXVII. **Nonlinear Intersubband Transitions in Square and Graded Quantum Wells Modulated by Intense Laser Field**  
ÖZTÜRK E., SÖKMEN İ.  
CHINESE PHYSICS LETTERS, vol.31, no.12, 2014 (SCI-Expanded)
- XXVIII. **Nonlinear intersubband transitions in a parabolic and an inverse parabolic quantum well under applied magnetic field**  
ÖZTÜRK E., SÖKMEN İ.  
JOURNAL OF LUMINESCENCE, vol.145, pp.387-392, 2014 (SCI-Expanded)
- XXIX. **Electric field effect on the nonlinear optical absorption in double semi-graded quantum wells**  
Ozturk E., Sokmen I.  
OPTICS COMMUNICATIONS, vol.305, pp.228-235, 2013 (SCI-Expanded)
- XXX. **Effect of an intense laser field on the holes in graded quantum wells**  
Ozturk E.  
EUROPEAN PHYSICAL JOURNAL PLUS, vol.128, no.8, 2013 (SCI-Expanded)
- XXXI. **Linear and nonlinear intersubband optical absorption coefficient and refractive index change in n-type delta-doped GaAs structure**  
ÖZTÜRK E., Ozdemir Y.  
OPTICS COMMUNICATIONS, vol.294, pp.361-367, 2013 (SCI-Expanded)
- XXXII. **Nonlinear intersubband absorption and refractive index changes in square and graded quantum**

- well modulated by temperature and Hydrostatic pressure**  
ÖZTÜRK E., SÖKMEN İ.  
JOURNAL OF LUMINESCENCE, vol.134, pp.42-48, 2013 (SCI-Expanded)
- XXXIII. The effects of hydrostatic pressure on the nonlinear intersubband transitions and refractive index changes of different QW shapes**  
ÖZTÜRK E., SÖKMEN İ.  
OPTICS COMMUNICATIONS, vol.285, no.24, pp.5223-5228, 2012 (SCI-Expanded)
- XXXIV. Linear and nonlinear optical absorption in different graded quantum wells modulated by intense laser field**  
Ozturk E., Sokmen I.  
SUPERLATTICES AND MICROSTRUCTURES, vol.52, no.5, pp.1010-1019, 2012 (SCI-Expanded)
- XXXV. Intersubband transitions and refractive index changes in coupled double quantum well with different well shapes**  
ÖZTÜRK E., SÖKMEN İ.  
SUPERLATTICES AND MICROSTRUCTURES, vol.50, no.4, pp.350-358, 2011 (SCI-Expanded)
- XXXVI. Effect of magnetic fields on the linear and nonlinear intersubband optical absorption coefficients and refractive index changes in square and graded quantum wells**  
Ozturk E., Sokmen I.  
SUPERLATTICES AND MICROSTRUCTURES, vol.48, no.3, pp.312-320, 2010 (SCI-Expanded)
- XXXVII. Effect of Magnetic Field on a p-Type delta-Doped GaAs Layer**  
Ozturk E.  
CHINESE PHYSICS LETTERS, vol.27, no.7, 2010 (SCI-Expanded)
- XXXVIII. Intersubband optical absorption coefficients and refractive index changes in triple quantum well with different well shapes**  
Ozturk E., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.51, no.1, 2010 (SCI-Expanded)
- XXXIX. Nonlinear optical absorption in graded quantum wells modulated by electric field and intense laser field**  
Ozturk E.  
EUROPEAN PHYSICAL JOURNAL B, vol.75, no.2, pp.197-203, 2010 (SCI-Expanded)
- XL. Optical intersubband transitions in double Si delta-doped GaAs under an applied magnetic field**  
Ozturk E.  
SUPERLATTICES AND MICROSTRUCTURES, vol.46, no.5, pp.752-759, 2009 (SCI-Expanded)
- XLI. Effect of the intense laser field on the valance band for Ga<sub>1-x</sub>Al<sub>x</sub>As/GaAs heterostructure**  
ÖZTÜRK E., SÖKMEN İ.  
SUPERLATTICES AND MICROSTRUCTURES, vol.45, no.1, pp.16-21, 2009 (SCI-Expanded)
- XLII. Electronic properties of p-type delta-doped GaAs structure under electric field**  
ÖZTÜRK E., SÖKMEN İ.  
CHINESE PHYSICS LETTERS, vol.25, no.4, pp.1415-1418, 2008 (SCI-Expanded)
- XLIII. Subband structure of p-type delta-doped GaAs as dependent on the acceptor concentration and the layer thickness**  
Ozturk E., Bahar M. K., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.41, no.3, pp.195-200, 2008 (SCI-Expanded)
- XLIV. Intersubband transitions in an asymmetric double quantum well**  
Ozturk E., Sokmen I.  
SUPERLATTICES AND MICROSTRUCTURES, vol.41, no.1, pp.36-43, 2007 (SCI-Expanded)
- XLV. The variation of electronic properties with the doping concentration of modulation-doped Al<sub>x</sub>Ga<sub>1-x</sub>As-GaAs double quantum wells**  
Ungan F., Ozturk E., Ergun Y., Sokmen I.  
SUPERLATTICES AND MICROSTRUCTURES, vol.41, no.1, pp.22-28, 2007 (SCI-Expanded)
- XLVI. Intersubband optical absorption in double quantum well under intense laser field**

- Ozturk E., Sari H., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.35, no.1, pp.1-5, 2006 (SCI-Expanded)
- XLVII. **Electric field and intense laser field effects on the intersubband optical absorption in a graded quantum well**  
Ozturk E., Sari H., Sokmen I.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.38, no.6, pp.935-941, 2005 (SCI-Expanded)
- XLVIII. **Intersubband transitions in quantum wells under intense laser field**  
Ozturk E., Sari H., Sokmen I.  
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.80, no.3, pp.541-544, 2005 (SCI-Expanded)
- XLIX. **The triple Si delta-doped GaAs structure**  
Ozturk E., Sari H., Ergun Y., Sokmen I.  
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.80, no.1, pp.167-171, 2005 (SCI-Expanded)
- L. **Subband structure and band bending in symmetric modulation-doped double quantum wells**  
Ungan F., Ozturk E., Ergun Y., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.29, no.1, pp.27-31, 2005 (SCI-Expanded)
- LI. **The dependence of the intersubband transitions in square and graded QWs on intense laser fields**  
Ozturk E., Sari H., Sokmen I.  
SOLID STATE COMMUNICATIONS, vol.132, no.7, pp.497-502, 2004 (SCI-Expanded)
- LII. **Intersubband optical absorption in quantum wells under applied electric and intense laser fields**  
Ozturk E., Sari H., Sokmen I.  
SURFACE REVIEW AND LETTERS, vol.11, no.3, pp.297-303, 2004 (SCI-Expanded)
- LIII. **Intersubband transitions of Si delta-doped GaAs layer for different donor distribution models**  
Ozturk E., Sokmen I.  
CHINESE PHYSICS LETTERS, vol.21, no.5, pp.930-933, 2004 (SCI-Expanded)
- LIV. **Intersubband optical absorption of double Si delta-doped GaAs layers**  
Ozturk E., Sokmen I.  
SUPERLATTICES AND MICROSTRUCTURES, vol.35, pp.95-104, 2004 (SCI-Expanded)
- LV. **Intersubband optical absorption in Si delta-doped GaAs for the donor distribution and thickness as dependent on the applied electric field**  
Ozturk E., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.25, no.1, pp.3-9, 2004 (SCI-Expanded)
- LVI. **Influence of an applied electric field on the electronic properties of Si delta-doped GaAs**  
Ozturk E., Ergun Y., Sari H., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.24, no.3, pp.189-194, 2003 (SCI-Expanded)
- LVII. **Intersubband transitions for single, double and triple Si delta-doped GaAs layers**  
Ozturk E., Sokmen I.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.36, no.20, pp.2457-2464, 2003 (SCI-Expanded)
- LVIII. **Electronic structure of two coupled Si delta-doped GaAs as dependent on the donor thickness**  
Ozturk E., Ergun Y., Sari H., Sokmen I.  
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.77, pp.427-431, 2003 (SCI-Expanded)
- LIX. **The effect of the donor distribution on the electronic structure of two coupled Si delta-doped layers in GaAs**  
Ozturk E., Sari H., Ergun Y., Sokmen I.  
PHYSICA B-CONDENSED MATTER, vol.334, pp.1-8, 2003 (SCI-Expanded)
- LX. **The electric field effects on intersubband optical absorption of Si delta-doped GaAs layer**  
Ozturk E., Sokmen I.  
SOLID STATE COMMUNICATIONS, vol.126, no.11, pp.605-609, 2003 (SCI-Expanded)
- LXI. **Electronic properties of two coupled Si delta-doped GaAs structures**  
Ozturk E., Sari H., Ergun Y., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.21, no.2, pp.91-95, 2003 (SCI-Expanded)
- LXII. **Influence of temperature on the electronic properties of Si delta-doped GaAs structures**

- Ozturk E., Ergun Y., Sari H., Sokmen I.  
EUROPEAN PHYSICAL JOURNAL-APPLIED PHYSICS, vol.21, no.2, pp.97-101, 2003 (SCI-Expanded)
- LXIII. **Si delta-doped GaAs structure with different dopant distribution models**  
Ozturk E., Ergun Y., Sari H., Sokmen I.  
JOURNAL OF APPLIED PHYSICS, vol.91, no.4, pp.2118-2122, 2002 (SCI-Expanded)
- LXIV. **The self-consistent calculation of Si delta-doped GaAs structures**  
Ozturk E., Ergun Y., Sari H., Sokmen I.  
APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.73, no.6, pp.749-754, 2001 (SCI-Expanded)
- LXV. **Electronic properties of Si delta-doped GaAs under an applied electric field**  
Ozturk E., Ergun Y., Sari H., Sokmen I.  
SEMICONDUCTOR SCIENCE AND TECHNOLOGY, vol.16, no.6, pp.421-426, 2001 (SCI-Expanded)
- LXVI. **Electronic subband of single Si delta-doped GaAs structures**  
Ozturk E., Ergun Y., Sari H., Sokmen I.  
SUPERLATTICES AND MICROSTRUCTURES, vol.28, no.1, pp.35-45, 2000 (SCI-Expanded)

## **Books & Book Chapters**

- I. **Mathematical Methods in Physics and Engineering**  
Öztürk E.  
Seçkin Yayıncılık, Ankara, 2011