

## Prof. MEHMET TOMAK

### Personal Information

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### Advising Theses

- TOMAK M., Growth and morphological characterization of intrinsic hydrogenated amorphous silicon thin film for a-Si:H/c-Si heterojunction solar cells, Doctorate, Ö.PEHLİVAN(Student), 2013
- TOMAK M., First-principles study of GaAs/AlAs nanowire heterostructures, Doctorate, S.ŞENOZAN(Student), 2012
- TOMAK M., Density functional investigation of nano-structures, Doctorate, O.ÜZENÇİ(Student), 2010
- TOMAK M., Non-linear optical properties of tow dimensional quantum well structures, Post Graduate, R.AĞANOĞLU(Student), 2006
- TOMAK M., Nonlinear optical properties of semiconductor heterostructures, Doctorate, H.YILDIRIM(Student), 2006
- TOMAK M., Ensemble monte carlo simulation of quantum well infrared photodetectors, Doctorate, S.MEMİŞ(Student), 2006
- TOMAK M., Bose-Einstein condensation at lower dimesions, Post Graduate, S.ÖZDEMİR(Student), 2004
- TOMAK M., Physical psoperties of Pd,Ni metals and their binary alloys, Doctorate, S.ÖZDEMİR(Student), 2004
- TOMAK M., Dielectric formulation of the one dimensional electron gas, Doctorate, M.TAŞ(Student), 2004
- TOMAK M., Molecular dynamics study of random and ordered metals and metal alloys, Doctorate, H.HÜSEYİN(Student), 2004
- LEBLEBİCİOĞLU M. K. , TOMAK M., Numerical studies of the electronic properties of low dimensional semikonduktor heterostructures, Doctorate, B.DİKMEN(Student), 2004
- TOMAK M., Molecular-dynamics investigation of pure metals and metal alloy, Doctorate, M.ULUDOĞAN(Student), 2003
- TOMAK M., Application of time-domain technique to study the ray movement inside bounded anisotropic medium, Doctorate, A.BİBER(Student), 2003
- TOMAK M., Molecular-dynamics investigation of the dynamic properties of Pd and Al metals, and their alloys, Doctorate, A.ÇORUH(Student), 2003
- TOMAK M., The Role of different interaction potentials in Bose-Einstein condensation, Post Graduate, Y.YILDIRIM(Student), 2002
- TOMAK M., Wigner crystallization in semiconductor quantum wires and model calculations for 3HE-4HE mixture, Doctorate, İ.AL(Student), 1999
- TOMAK M., Electron-electron interactions in a two dimensional quantum dot, Doctorate, N.AKMAN(Student), 1999
- TOMAK M., Molecular dynamics computer simulation of solid and liquid metal alloys, Post Graduate, D.GÜLTOPRAK(Student), 1999
- TOMAK M., Many body interactions in one dimensional electron gas, Post Graduate, M.TAŞ(Student), 1998
- TOMAK M., The Optical properties of quantum well structure, Post Graduate, K.TURHAN(Student), 1998
- TOMAK M., Dielectric response of a quasi-one-dimensional electron gas, Post Graduate, U.SUNAR(Student), 1998
- TOMAK M., Molecular dynamics computer simulation of palladium and platinum-palladium alloy, Post Graduate, S.BEKKAYA(Student), 1997
- TOMAK M., Molecular-Dynamics computer simulation of pure metal and liquid metal alloy, Post Graduate, A.BİBER(Student), 1997
- TOMAK M., Molecular-dynamics computer simulation of pure metals and metal alloys, Post Graduate, M.ULUDOĞAN(Student), 1996
- TOMAK M., Spline fuction method applied to the low dimensional electronic structures, Post Graduate, B.DİKMEN(Student), 1996
- TOMAK M., An Analytical approach for electronic properties of semiconductor quantum well-wines, Doctorate,

A.SALİM(Student), 1995

TOMAK M., Oscillatory magnetoresistance in two dimensional semiconductor structures, Doctorate, B.USLU(Student), 1995

TOMAK M., The Electronic and transport properties of modulation doped heterostructures, Doctorate, M.AYMAN(Student), 1994

TOMAK M., The Electronic structure and optical absorption in modulation doped semiconductor heterostructures, Doctorate, R.ABDALLA(Student), 1994

TOMAK M., Electronic properties of semiconductor heterojunctions, Doctorate, M.İZZAT(Student), 1992

TOMAK M., Photoionization and polarization of electrons in bulk and low-dimensional semiconductors, Doctorate, K.FAİSAL(Student), 1991

TOMAK M., The K,p method for electronic structure of semiconductors, Post Graduate, A.NASSAR(Student), 1991

TOMAK M., Properties of shallow impurities in quantum wells and wires, Doctorate, M.KHALİL(Student), 1990

TOMAK M., The Transport and thermodynamical properties of liquid metals, Doctorate, T.MOHAMMAD(Student), 1988

TOMAK M., Description of the electronic structure of solids by the recursion methods, Doctorate, M.EL(Student), 1987

### Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **Exciton related nonlinear optical properties of a spherical quantum dot**  
Aksahin E., Unal V. U. , TOMAK M.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.74, pp.258-263, 2015 (Journal Indexed in SCI)
- **Adsorption of RuSex (x=1-5) cluster on Se-doped graphene: First principle calculations**  
AKTÜRK O. Ü. , TOMAK M.  
APPLIED SURFACE SCIENCE, vol.347, pp.808-815, 2015 (Journal Indexed in SCI)
- **Study of the a-Si:H/c-Si Heterointerface by Ex-Situ Spectroscopic Ellipsometry, Infrared Spectroscopy, and Solar Cell Modeling**  
Pehlivan O., KARATAŞ S., Yılmaz O., Kodolbas A. O. , Duygulu O., DUYGULU N., İSKENDER İ., TOMAK M.  
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- **Exciton related optical absorption in a spherical quantum dot**  
Aksahin E., Unal V. U. , TOMAK M.  
EUROPEAN PHYSICAL JOURNAL B, vol.87, 2014 (Journal Indexed in SCI)
- **Spin-orbit effects on the nonlinear optical properties of a quantum dot in simultaneous electric and magnetic fields**  
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- **Electronic and geometric structure of AuxCuy clusters studied by density functional theory**  
KADIOĞLU Y., AKTÜRK O. Ü. , TOMAK M.  
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- **Nonlinear optical properties of a Woods-Saxon quantum dot under an electric field**  
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- **Structural characterization of intrinsic a-Si:H thin films for silicon heterojunction solar cells**  
Pehlivan O., Yılmaz O., Kodolbas A. O. , Duygulu O., TOMAK M.  
JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.15, pp.22-24, 2013 (Journal Indexed in SCI)
- **Nonlinear optical properties of a Poschl-Teller quantum well under electric and magnetic fields**  
AYTEKİN Ö., TURGUT S., Tomak M.  
PHYSICA E-LOW-DIMENSIONAL SYSTEMS & NANOSTRUCTURES, vol.44, pp.1612-1616, 2012 (Journal Indexed in SCI)
- **Lithium and antimony adsorbed on graphene studied by first-principles calculations**  
AKTÜRK O. Ü. , TOMAK M.  
APPLIED SURFACE SCIENCE, vol.258, pp.800-805, 2011 (Journal Indexed in SCI)

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- **Thermodynamics of a two-dimensional interacting Bose gas trapped in a quartic potential**  
Karabulut E. O. , Koyuncu M., ATAV Ü., TOMAK M.  
PHYSICS LETTERS A, vol.375, pp.339-345, 2011 (Journal Indexed in SCI)
- **NH<sub>3</sub> and H<sub>2</sub>S adsorption on Au<sub>3</sub>Pt<sub>3</sub> cluster studied by a first principles calculation**  
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- **Thermodynamics of Bose-Einstein gas trapped in D-dimensional quartic potentials**  
Karabulut E. O. , Koyuncu M., TOMAK M.  
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.389, pp.1371-1379, 2010 (Journal Indexed in SCI)
- **Bismuth doping of graphene**  
Akturk O. U. , TOMAK M.  
APPLIED PHYSICS LETTERS, vol.96, 2010 (Journal Indexed in SCI)
- **VIBRATIONAL MODES IN SMALL Ag-n, Au-n CLUSTERS: A FIRST PRINCIPLE CALCULATION**  
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- **Au<sub>n</sub>Pt<sub>n</sub> clusters adsorbed on graphene studied by first-principles calculations**  
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- **Can Sobolev Inequality Be Written for Sharma-Mittal Entropy?**  
Akturk O. U. , Akturk E., TOMAK M.  
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- **Theoretical investigation of intersubband nonlinear optical rectification in Al<sub>x</sub>In<sub>1-x</sub>As/GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As asymmetric rectangular quantum wells**  
Karabulut I., Atav U., Safak H., Tomak M.  
PHYSICA STATUS SOLIDI B-BASIC SOLID STATE PHYSICS, vol.244, pp.3313-3324, 2007 (Journal Indexed in SCI)
- **Second harmonic generation in an asymmetric rectangular quantum well under hydrostatic pressure**  
Karabulut I., Atav U., Safak H., Tomak M.  
PHYSICA B-CONDENSED MATTER, vol.393, pp.133-138, 2007 (Journal Indexed in SCI)
- **Linear and nonlinear intersubband optical absorptions in an asymmetric rectangular quantum well**  
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- **Third-harmonic generation in a quantum well with adjustable asymmetry under an electric field**

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**Nonlinear intersubband optical absorption of Si delta-doped GaAs under an electric field**

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JOURNAL OF APPLIED PHYSICS, vol.99, 2006 (Journal Indexed in SCI)

**Optical absorption of a quantum well with an adjustable asymmetry**

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**Electronic structure of a many-electron spherical quantum dot with an impurity**

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**Quantum genetic algorithm method in self-consistent electronic structure calculations of a quantum dot with many electrons**

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**Nonlinear optical rectification in asymmetrical semiparabolic quantum wells**

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**Thermal and mechanical properties of Cu-Au intermetallic alloys**

Kart H., Tomak M., Cagin T.

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