

## Prof. Oğuzhan Gürlü

### Personal Information

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### Education Information

Doctorate, Universiteit Twente, Applied Physics / Solid State Physics, Netherlands 2000 - 2004

Postgraduate, Universiteit Twente, Solid State Physics Group, Netherlands 1999 - 2000

Undergraduate, İhsan Doğramacı Bilkent Üniversitesi, Fen Fakültesi, Fizik Bölümü, Turkey 1994 - 1999

### Foreign Languages

Dutch, B1 Intermediate

English

German, B1 Intermediate

### Dissertations

Doctorate, On the Platinum Covered Silicon and Germanium (001) surfaces, Universiteit Twente, Applied Physics / Solid State Physics, 2004

Postgraduate, Spin Polarized Scanning Tunneling Microscopy: A new Approach, Universiteit Twente, Solid State Physics Group, 2000

### Research Areas

Basic Sciences, Physics, Interdisciplinary Physics and Related Science and Technology Areas, Materials Science, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Surfaces, Interfaces, Thin Films and Nanosystems, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Electrical properties of electronic structures, interfaces, thin films and low-dimensional structures

### Academic Titles / Tasks

Professor, Istanbul Technical University, Fen-Edebiyat, Fizik Mühendisliği, 2019 - Continues

Associate Professor, Istanbul Technical University, Fizik Mühendisliği Bölümü, 2011 - 2019

Assistant Professor, Istanbul Technical University, Fizik Mühendisliği Bölümü, 2007 - 2011

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

1. **Wear and corrosion resistance enhancement of chromium surfaces through graphene oxide coating**

Ozkan D., ERARSLAN Y., Kincal C., Gürlü O., Yagci M. B.

SURFACE & COATINGS TECHNOLOGY, vol.391, 2020 (Journal Indexed in SCI)

- II. **Analysis and detection of low-energy electrons in scanning electron microscopes using a Bessel box electron energy analyser**  
Suri A., Pratt A., Tear S., Walker C., Kincal C., Kamber U., Gürlü O., El-Gomati M.  
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.241, 2020 (Journal Indexed in SCI)
- III. **Scanning Field Emission Microscopy with Polarization Analysis (SFEMPA)**  
Bertolini G., De Pietro L., Baehler T., Cabrera H., Gürlü O., Pescia D., Ramsperger U.  
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.241, 2020 (Journal Indexed in SCI)
- IV. **Scanning tunneling microscopy in the field-emission regime: Formation of a two-dimensional electron cascade**  
Werner W. S. M. , Oral M., Radlicka T., Zelinka J., Mullerova I., Bellissimo A., Bertolini G., Cabrera H., Gürlü O.  
APPLIED PHYSICS LETTERS, vol.115, no.25, 2019 (Journal Indexed in SCI)
- V. **Mechanical dissipation via image potential states on a topological insulator surface**  
Yildiz D., Kisiel M., Gysin U., Gurlu O., Meyer E.  
NATURE MATERIALS, vol.18, no.11, pp.1201-1207, 2019 (Journal Indexed in SCI)
- VI. **Investigation of CVD graphene as-grown on Cu foil using simultaneous scanning tunneling/atomic force microscopy**  
Jadidi M. F. , Kamber U., Gürlü O., Ozer H. O.  
BEILSTEIN JOURNAL OF NANOTECHNOLOGY, vol.9, pp.2953-2959, 2018 (Journal Indexed in SCI)
- VII. **Whispering-gallery modes observed in elastic scattering from submerged high-refractive-index silica microspheres**  
Yilmaz H., Yilmaz H., Tamer M. S. , Gürlü O., Murib M. S. , Serpenguzel A.  
OPTICAL ENGINEERING, vol.56, no.12, 2017 (Journal Indexed in SCI)
- VIII. **Investigation of atomic species in Pt-induced nanowires on Ge(001) surface by combined atomic force and scanning tunneling microscopy**  
Inami E., Sugimoto Y., Shinozaki T., Gürlü O., Yurtsever A.  
PHYSICAL REVIEW B, vol.96, no.15, 2017 (Journal Indexed in SCI)
- IX. **Apparent corrugation variations on moire patterns on highly oriented pyrolytic graphite**  
Yıldız D., Gürlü O.  
MATERIALS TODAY COMMUNICATIONS, vol.8, pp.72-78, 2016 (Journal Indexed in SCI)
- X. **Preface to the special section on nano- and mesoscale friction Preface**  
Bouchbinder E., Foster A. S. , Gürlü O., Meyer E., Perkin S., Schirmeisen A., de Wijn A. S.  
JOURNAL OF PHYSICS-CONDENSED MATTER, vol.28, no.13, 2016 (Journal Indexed in SCI)
- XI. **Dynamical electrical tuning of a silicon microsphere: used for spectral mapping of the optical resonances**  
Yuce E., Gürlü O., Thursby G. J. , Serpenguzel A.  
APPLIED OPTICS, vol.53, no.27, pp.6181-6184, 2014 (Journal Indexed in SCI)
- XII. **Polarization behavior of elastic scattering from a silicon microsphere coupled to an optical fiber**  
Murib M. S. , Yuce E., Gürlü O., Serpenguzel A.  
PHOTONICS RESEARCH, vol.2, no.2, pp.45-50, 2014 (Journal Indexed in SCI)
- XIII. **Optical Modulation With Silicon Microspheres**  
Yuce E., Gurlu O., Serpenguzel A.  
IEEE PHOTONICS TECHNOLOGY LETTERS, vol.21, no.20, pp.1481-1483, 2009 (Journal Indexed in SCI)
- XIV. **Controlled damaging and repair of self-organized nanostructures by atom manipulation at room temperature**  
Gurlu O., VAN HOUSELT A., THIJSSSEN W. H. A. , VAN RUITENBEEK J. M. , POELSEMA B., ZANDVLIET H. J. W.  
NANOTECHNOLOGY, vol.18, no.36, 2007 (Journal Indexed in SCI)
- XV. **Quantum confinement between self-organized Pt nanowires on Ge(001)**  
Oncel N., VAN HOUSELT A., HUIJIBEN J., HALLBAC A., Gurlu O., ZANDVLIET H., POELSEMA B.  
PHYSICAL REVIEW LETTERS, vol.95, no.11, 2005 (Journal Indexed in SCI)

- XVI. **Electronic properties of (2 x 1) and c(4 x 2) domains on Ge(001) studied by scanning tunneling spectroscopy**  
Gurlu O., ZANDVLIET H., POELSEMA B.  
PHYSICAL REVIEW LETTERS, vol.93, no.6, 2004 (Journal Indexed in SCI)
- XVII. **Initial stages of Pt growth on Ge(001) studied by scanning tunneling microscopy and density functional theory**  
Gurlu O., ZANDVLIET H., POELSEMA B., DAG S., CIRACI S.  
PHYSICAL REVIEW B, vol.70, no.8, 2004 (Journal Indexed in SCI)
- XVIII. **Coexistence of (2 x 1) and i(4 x 2) phases on Ge(001)**  
Zandvliet H., VAN GASTEL R., Gurlu O., POELSEMA B.  
PHYSICS LETTERS A, vol.326, pp.457-461, 2004 (Journal Indexed in SCI)
- XIX. **Faceting of < 010 > steps on Si(001) and Ge(001) surfaces**  
Zandvliet H., Gurlu O., VAN GASTEL R., POELSEMA B.  
PHYSICAL REVIEW B, vol.69, no.12, 2004 (Journal Indexed in SCI)
- XX. **Self-organized, one-dimensional Pt nanowires on Ge(001)**  
Gurlu O., ADAM O., ZANDVLIET H., POELSEMA B.  
APPLIED PHYSICS LETTERS, vol.83, no.22, pp.4610-4612, 2003 (Journal Indexed in SCI)
- XXI. **Temperature dependence of the step free energy**  
Zandvliet H., Gurlu O., POELSEMA B.  
PHYSICAL REVIEW B, vol.64, no.7, 2001 (Journal Indexed in SCI)
- XXII. **The influence of strain on the diffusion of Si dimers on Si(001)**  
Zoethout E., Gurlu O., ZANDVLIET H., POELSEMA B.  
SURFACE SCIENCE, vol.452, pp.247-252, 2000 (Journal Indexed in SCI)
- XXIII. **Donor-acceptor pair recombination in AgIn5S8 single crystals**  
Gasany N., SERPENGUZEL A., AYDINLI A., Gurlu O., Yilmaz I.  
JOURNAL OF APPLIED PHYSICS, vol.85, no.6, pp.3198-3201, 1999 (Journal Indexed in SCI)
- XXIV. **Dependence of the photoluminescence of Tl2InGaS4 layered crystal on temperature and excitation intensity**  
Gasany N., SERPENGUZEL A., Gurlu O., AYDINLI A., Yilmaz I.  
SOLID STATE COMMUNICATIONS, vol.108, no.8, pp.525-530, 1998 (Journal Indexed in SCI)

## Supported Projects

Gürlü O., TUBITAK Project, Growth of two dimensional graphene crystals and Bi<sub>2</sub>Te<sub>3</sub> topological insulator crystals their characterization from atomic scale up to millimeter sizes while improving crystal growth process TÜBİTAK 114F036, 2014 - Continues

Gürlü O., TUBITAK Project, Formation and investigation of the physical properties of metallic nanowires on semiconductor surfaces and their manipulation TÜBİTAK MFAG 112T818, 2013 - 2016

Gürlü O., Project Supported by Higher Education Institutions, Grafen/HOPG Sisteminde Oluşan Süper Periyodik Yapıların Elektronik ve Morfolojik Özelliklerinin Taramalı Tünelleme Mikroskopisi ve Spektroskopisi ile İncelenmesi, 2014 - 2015

Gürlü O., TUBITAK Project, Investigation of the morphological and electronic structure of swift heavy ion irradiated graphitic surfaces TÜBİTAK MFAG 113F005, 2013 - 2015

Gürlü O., Project Supported by Higher Education Institutions, Krom Oksit İnce Filmlerin Optik ve Morfolojik Özelliklerinin İncelenmesi ve Su Katmanı ile Etkileşimleri, 2012 - 2013

Gürlü O., Project Supported by Higher Education Institutions, Hibridize DNA'ların Yüzey Özelliklerinin İncelenmesi, 2012 - 2013

Gürlü O., TUBITAK Project, Production of metallic nano particles from solutions by use of RF inductive methods TÜBİTAK MAG 110M687, 2011 - 2013

Gürlü O., TUBITAK Project, Investigation of optical excitations in nanoscale tunnel junctions TÜBİTAK TBAG 109T687, 2010 - 2013

Gürlü O., Project Supported by Higher Education Institutions, Taramalı Tünelleme Mikroskopisi için Ultra Yüksek Vakum Sistemi Kurumu, 2009 - 2011  
Gürlü O., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Istanbul Technical University Nanoscience and Nanotechnology Institute DPT 2008K120710, 2008 - 2011  
Gürlü O., TUBITAK Project, Micro photonic resonators on silicon for optical communication and sensing TÜBİTAK EEEAG 106E215, 2007 - 2010

## **Citations**

Total Citations (WOS):473

h-index (WOS):10