

Assoc. Prof. CEREN TAYRAN

Personal Information

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Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2010 - 2014

Doctorate, Michigan State University, Department of Physics and Astronomy, United States Of America 2012 - 2013

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), Turkey 2007 - 2010

Undergraduate, Gazi University, Fen Fakültesi, Fizik Bölümü, Turkey 2003 - 2007

Dissertations

Doctorate, Silisyum ve galyum arsenit yüzeylerine tutunmuş grafitik nano yapıların elektronik özellikleri, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2014

Postgraduate, Titanya yüzeyine karbon nanotüp tutunması: Yapısal ve elektronik özellikler, Gazi University, Fen Bilimleri Enstitüsü, Fizik (YI) (Tezli), 2009

Research Areas

Physics

Academic Titles / Tasks

Associate Professor, Gazi University, Fen Fakültesi, Fizik, 2021 - Continues

Research Assistant, Gazi University, Fen Fakültesi, Fizik, 2009 - 2020

Courses

PHYSICS II, Undergraduate, 2020 - 2021

FİZİK I, Undergraduate, 2020 - 2021

FİZİK LABORATUVARI, Undergraduate, 2020 - 2021

FİZİK LABORATUVARI IV (ELEKTRONİK), Undergraduate, 2020 - 2021

PHYSICS LABORATORY, Undergraduate, 2018 - 2019

FİZİK LABORATUVARI, Undergraduate, 2018 - 2019

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

1. Charge density wave in a SnSe₂ layer on Sn/Si(111)-(root 3 x root 3)R30 degrees and the effect of surface hydrogenation

- TAYRAN C., ÇAKMAK M.
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.24, no.11, pp.6820-6827, 2022 (Journal Indexed in SCI)
- II. **Biaxial Strain-Induced Electronic Structure and Optical Properties of SiP2S Monolayer**
Tayran C., Caglayan R., Mogulkoc Y., ÇAKMAK M., Alkan B.
JOURNAL OF ELECTRONIC MATERIALS, vol.50, no.11, pp.6253-6260, 2021 (Journal Indexed in SCI)
- III. **Electronic, phononic and superconducting properties of trigonal Li₂MSi₂ (M = Ir, Rh)**
TAYRAN C., ÇAKMAK M.
JOURNAL OF PHYSICS-CONDENSED MATTER, vol.33, no.6, 2021 (Journal Indexed in SCI)
- IV. **Quantum-well states for uniform Ag layers on the Ga-induced Si (111)-(√3 x √3)R30 degrees surface**
TAYRAN C., ÇAKMAK M., Srivastava G. P.
SURFACE SCIENCE, vol.701, 2020 (Journal Indexed in SCI)
- V. **Adsorption of S on Si(111) with M-4 x 4 superstructure**
TAYRAN C., ÇAKMAK M., Srivastava G. P.
SURFACE SCIENCE, vol.701, 2020 (Journal Indexed in SCI)
- VI. **Atomic and electronic structures of Sn covered W(110) surface**
TAYRAN C., ÇAKMAK M., Srivastava G. P.
EUROPEAN PHYSICAL JOURNAL B, vol.93, no.1, 2020 (Journal Indexed in SCI)
- VII. **Electronic structure, phonon and superconductivity for WP 5d-transition metal**
TAYRAN C., ÇAKMAK M.
JOURNAL OF APPLIED PHYSICS, vol.126, no.17, 2019 (Journal Indexed in SCI)
- VIII. **Electronic structure of the Pd₂Sn surface alloy on Pd(111)-(√3 x √3)R30 degrees**
TAYRAN C., ÇAKMAK M.
EUROPEAN PHYSICAL JOURNAL B, vol.92, no.10, 2019 (Journal Indexed in SCI)
- IX. **Tl on the Si(111)-(√7 x √3) surface: Density Functional Theory**
TAYRAN C., Alkan B., ÇAKMAK M.
PHILOSOPHICAL MAGAZINE, vol.99, no.13, pp.1656-1668, 2019 (Journal Indexed in SCI)
- X. **Electronic structure of Lanthanum induced pi-bonded Seiwatz chains on the Si(111)-(2 x 3) surface**
TAYRAN C.
SURFACE SCIENCE, vol.679, pp.214-217, 2019 (Journal Indexed in SCI)
- XI. **Co on the H-passivated Si(001) surface: Density-functional calculations**
TAYRAN C., ÇAKMAK M.
PHYSICA B-CONDENSED MATTER, vol.542, pp.44-50, 2018 (Journal Indexed in SCI)
- XII. **The structural, mechanical, and electronic properties of LiAlB₄ under pressure from first principles**
TAYRAN C., AYDIN S.
PHYSICA STATUS SOLIDI C: CURRENT TOPICS IN SOLID STATE PHYSICS, VOL 14 NO 5, vol.14, no.5, 2017 (Journal Indexed in SCI)
- XIII. **Alkali and Alkaline earth metal doped aluminum tetraborides containing intrinsic planar boron sheet: XAlB₄ (X = Li, Mg, Ca, and Na)**
TAYRAN C., AYDIN S., ÇAKMAK M., Ellialtioglu S.
COMPUTATIONAL MATERIALS SCIENCE, vol.124, pp.130-141, 2016 (Journal Indexed in SCI)
- XIV. **Structural and electronic properties of AB- and AA-stacking bilayer-graphene intercalated by Li, Na, Ca, B, Al, Si, Ge, Ag, and Au atoms**
TAYRAN C., AYDIN S., ÇAKMAK M., Ellialtioglu S.
SOLID STATE COMMUNICATIONS, vol.231, pp.57-63, 2016 (Journal Indexed in SCI)
- XV. **Optimizing Electronic Structure and Quantum Transport at the Graphene-Si(111) Interface: An Ab Initio Density-Functional Study**
TAYRAN C., Zhu Z., Baldoni M., Selli D., Seifert G., Tomanek D.
PHYSICAL REVIEW LETTERS, vol.110, no.17, 2013 (Journal Indexed in SCI)
- XVI. **Electronic and structural properties of armchair SWCNT/TiO₂(110)-(1 x 2) system**
TAYRAN C., ÇAKMAK M., Ellialtioglu S.

Articles Published in Other Journals

- I. **Theoretical study of B segregation in Mo(110)**
TAYRAN C.
BOR DERGİSİ, vol.3, no.3, pp.174-179, 2018 (Other Refereed National Journals)

Refereed Congress / Symposium Publications in Proceedings

- I. **Phagrafen Tipi Bor Nitrür Yapısının Atomik ve Elektronik Özellikleri**
TAYRAN C.
24. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 21 December 2018
- II. **Cerium Adsorption on the Si(111) Surface: Density Functional Theory**
TAYRAN C.
International Eurasian Conference on Science, Engineering and Technology (EurasianSciEnTech 2018), Turkey, 22 - 23 November 2018
- III. **Theoretical Study of Monolayer Sn Covered W(110) Surface**
TAYRAN C., ÇAKMAK M., SRIVASTAVA G. P.
International Congress on the World of Technology and Advanced Materials (WITAM-2018), Turkey, 21 - 23 September 2018
- IV. **Theoretical Study of TI Single and Double Layer on the Si(111)-(root7 x root3) Surface**
TAYRAN C., ALKAN Ş. B. , ÇAKMAK M.
International Congress on the World of Technology and Advanced Materials (WITAM-2018), Turkey, 21 - 23 September 2018
- V. **Frictional Force and Sliding Mechanism of Functionalized Graphene Systems**
TAYRAN C., GÜLSEREN O.
European Materials Research Society 2017 Fall Meeting (E-MRS), Poland, 18 - 21 September 2017
- VI. **Katkılı ve Katkısız İki Tabakalı Grafen Sistemlerinde İlk-Prensipler ile Sürtünme Kuvvetinin İncelenmesi**
TAYRAN C., SAYIN C. S. , GÜLSEREN O.
22. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 16 December 2016
- VII. **Grafenin 4H-SiC{0001} Yüzeyleri Üzerinde Sürtünmesinin İlk Prensipler Hesaplarıyla İncelenmesi**
SAYIN C. S. , TAYRAN C., GÜLSEREN O.
22. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 16 December 2016
- VIII. **Friction of Graphene over 4H-SiC{0001} Surfaces**
SAYIN C. S. , TAYRAN C., GÜLSEREN O.
2016 Graphene Related Materials Conference (GRM-2016), Turkey, 13 - 15 July 2016
- IX. **Superlubricity and Frictional Force of Bilayer Graphene System**
TAYRAN C., SAYIN C. S. , GÜLSEREN O.
2016 Graphene and Related Materials Conference (GRM-2016), Turkey, 13 - 15 July 2016
- X. **Grafen Yüzeyinde Kayan Grafen Parçacığı**
TAYRAN C., SAYIN C. S. , GÜLSEREN O.
V. Yoğun Madde Fiziği İzmir Toplantısı, Turkey, 15 April 2016
- XI. **Ab Initio Study of Friction of Graphene Flake on Graphene/Graphite or SiC Surface**
GÜLSEREN O., TAYRAN C., SAYIN C. S.
APS March Meeting 2016, United States Of America, 14 - 18 March 2016
- XII. **Nano Ölçekte Sürtünmenin İlk-Prensipler ile İncelenmesi: Grafen Üzerinde Grafen Parçacıkları**
TAYRAN C., SAYIN C. S. , GÜLSEREN O.

21. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 25 December 2015
- XIII. **Structural mechanical and electronic properties of $XAlB_4$ ($X=Li, Na$)**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
9th International Physics Conference of the Balkan Physical Union, 24 - 27 August 2015
- XIV. **First-Principles Investigation of Friction: Graphene Flake on Graphene or SiC Surface**
TAYRAN C., SAYIN C. S., GÜLSEREN O.
9th International Physics Conference of the Balkan Physical Union (BPU9), Turkey, 24 August 2015 - 27 August 2016
- XV. **Structural, Mechanical, and Electronic Properties of $XAlB_4$ ($X=Li, Mg, Ca, and Na$)**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
9th International Physics Conference of the Balkan Physical Union (BPU9), Turkey, 24 - 27 August 2015
- XVI. **Graphene Flake on Graphene: First Principles Study of Nanofriction**
TAYRAN C., SAYIN C. S., GÜLSEREN O.
The International Conference on Understanding and Controlling Nano and Mesoscale Friction, Turkey, 22 - 26 June 2015
- XVII. **First-Principles Study of Layer-Intercalated Trilayer Graphene**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
11th Nanoscience and Nanotechnology Conference (NanoTR-11), Turkey, 22 - 25 June 2015
- XVIII. **Investigation of Friction Between Graphene Flake and Graphene From First Principles**
TAYRAN C., SAYIN C. S., GÜLSEREN O.
11th Nanoscience and Nanotechnology Conference (NanoTR-11), Turkey, 22 - 25 June 2015
- XIX. **Li-Katkılı Üç-Tabakalı Grafen Sistemlerinin Yapısal ve Elektronik Özellikleri**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
20. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 26 December 2014
- XX. **Optimizing Electronic Structure and Quantum Transport at the Graphene-Si(111) Interface: An Ab-Initio Density-Functional Study**
TAYRAN C., ZHU Z., BALDONI M., SELLI D., SEIFERT G., TOMANEK D.
30th European Conference on Surface Science (ECOSS-30), Turkey, 31 August - 05 September 2014
- XXI. **Atomic and Electronic Properties of Wavy Graphene/Bi/GaAs(001)- $\alpha_2(2 \times 4)$ Surface**
TAYRAN C., USANMAZ D., ÇAKMAK M., ALKAN Ş. B., ELLİALTIOĞLU S. Ş.
30th European Conference on Surface Science (ECOSS-30), Turkey, 31 August - 05 September 2014
- XXII. **The Structural and Electronic Properties of X (Li, Ag, Au)-Intercalated AB Stacking Bilayer-Graphene**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
30th European Conference on Surface Science (ECOSS-30), Turkey, 31 August - 05 September 2014
- XXIII. **X ($=Li, Na, Ca, B, Al, Si, Ge, Ag, Au$)-Intercalated AA-Stacking Bilayer-Graphene**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
Turkish Physical Society 31st International Physical Congress, Turkey, 21 - 24 July 2014
- XXIV. **Structural and Electronic Properties of Li-Intercalated AA-Stacking Bilayer-Graphene: A First-Principles Study**
TAYRAN C., AYDIN S., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
Turkish Physical Society 31st International Physical Congress, Turkey, 21 - 24 July 2014
- XXV. **Grafen'in Bi/GaAs(001)- $\alpha_2(2 \times 4)$ Yüzeyine Tutunması**
TAYRAN C., USANMAZ D., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
19. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 20 December 2013
- XXVI. **Rutil TiO_2 Yüzeyi Üzerinde İçi Platin Katkılanmış Karbon Nanotüp Tutunması**
TAYRAN C., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
17. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 05 November 2010
- XXVII. **Armchair Double-Walled Carbon Nanotube on Rutile $TiO_2(110)-(1 \times 2)$**
TAYRAN C., ÇAKMAK M., ELLİALTIOĞLU S. Ş.
International Conference "Physics 2010", Azerbaijan, 30 June - 02 July 2010, vol.16, pp.126-128
- XXVIII. **Rutil $TiO_2(110)-(1 \times 2)$ Yüzeyine Tutunmuş Karbon Nanotüpün Elektronik Özellikleri**

TAYRAN C., ÇAKMAK M., ELLİALTIOĞLU S. Ş.

16. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 06 November 2009

XXIX. **Electronic Properties of Carbon Nanotubes Adsorbed on Reconstructed Rutile TiO₂(110) Surface: A DFT Study**

TAYRAN C., ÇAKMAK M., ELLİALTIOĞLU S. Ş.

26th European Conference on Surface Science (ECOSS-26), Italy, 30 August - 04 September 2009

XXX. **Electronic Properties of Carbon Nanotubes Adsorbed on Reconstructed Rutile TiO₂(110)-(1x2) Surface**

TAYRAN C., ÇAKMAK M., ELLİALTIOĞLU S. Ş.

5. Ulusal Nanobilim ve Nanoteknoloji Konferansı (NanoTR-V), Turkey, 8 - 12 June 2009

XXXI. **Rutil TiO₂(110)-(1x2) Yüzeyi Üzerindeki Karbon Nanotüp'ün Yapısal ve Elektronik Özellikleri**

TAYRAN C., ÇAKMAK M., METE E., ELLİALTIOĞLU S. Ş.

15. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 07 November 2008

XXXII. **Structural and Electronic Properties of Carbon Nanotubes on the TiO₂(110)-(1x2) Surface**

TAYRAN C., ÇAKMAK M., ELLİALTIOĞLU S. Ş.

Turkish Physical Society 25th International Physical Congress, Turkey, 25 - 29 August 2008

Scientific Refereeing

JOURNAL OF PHYSICS-CONDENSED MATTER, SCI Journal, July 2021

JOURNAL OF PHYSICS-CONDENSED MATTER, SCI Journal, June 2021

JOURNAL OF PHYSICS-CONDENSED MATTER, SCI Journal, October 2020

SAKARYA UNIVERSITY JOURNAL OF SCIENCE, National Scientific Refreed Journal, February 2020

Citations

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