Asst. Prof. ALİ EMRE GENÇ

Personal Information

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International Researcher IDs
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Education Information

Doctorate, Gazi University, Fen Fakültesi, Fizik, Turkey 2012 - 2019
Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Fizik (Yl) (Tezli), Turkey 2008 - 2011

Foreign Languages

English, C2 Mastery

Research Areas

Atomic and Molecular Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Computational Chemistry, Fuel Cells, Surface Chemistry, Catalysis

Academic Titles / Tasks

Assistant Professor, Gazi University, Fen Fakültesi, Fizik, 2023 - Continues
Research Assistant PhD, Gazi University, Fen Fakültesi, Fizik, 2009 - 2023

Courses

Undergraduate
Physics-Electric and Magnetism, Undergraduate, 2022 - 2023

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Structural, electronic, elastic and optical properties of double spinel MgAlGaO₄: a DFT investigation**
Kushwaha A., GÜLER E., ÖZDEMİR A., GENÇ A. E., UĞUR G.
INDIAN JOURNAL OF PHYSICS, vol.98, no.12, pp.4011-4017, 2024 (SCI-Expanded)

II. **The effect of the chemical bonding environment changes in FeNX: Hydrocarbon adsorption by DFT**
KÜÇÜK H., GENÇ A. E.
Inorganic Chemistry Communications, vol.162, 2024 (SCI-Expanded)

III. **DFT predictions of the electronic, phonon, optical, and thermoelectric characteristics of CaCu₂S₂**
GÜLER E., GÜLER M., ÖZDEMİR A., GENÇ A. E., UĞUR G., UĞUR Ş.
MRS COMMUNICATIONS, vol.13, no.6, pp.1320-1325, 2023 (SCI-Expanded)

IV. **Adsorption mechanism of the N2 and NRR intermediates on oxygen modified MnN4-graphene layers - a single atom catalysis perspective**
GENÇ A. E., Tranca I.
Physical Chemistry Chemical Physics, vol.25, no.27, pp.18465-18480, 2023 (SCI-Expanded)

V. **Investigating the electronic, elastic, mechanical, anisotropic, and optical aspects of Sc2RuZ (Z: Al, Ga, and In) full Heusler alloys from the first principles**
GÜLER M., UĞUR Ş., GÜLER E., ÖZDEMİR A., Kushwaha A., GENÇ A. E., UĞUR G.
PHYSICA B-CONDENSED MATTER, vol.659, 2023 (SCI-Expanded)

VI. **Full potential theoretical investigations for electronic, optical, mechanical, elastic and anisotropic properties of X2Se2C (X = Ta, Nb) compounds**
Baaziz H., Ghellab T., Charifi Z., GÜLER M., UĞUR Ş., GÜLER E., GENÇ A. E., UĞUR G.
European Physical Journal B, vol.96, no.5, 2023 (SCI-Expanded)

VII. **Ammonia free catalytic reduction of nitric oxide on Ni-embedded graphene nanostructure: A density functional theory investigation**
GENÇ A. E., Akça A., KARAMAN C., Camarada M. B., Dragoi E.
Molecular Catalysis, vol.541, 2023 (SCI-Expanded)

VIII. **Properties of the double half-heusler alloy ScNbNi2Sn2 with respect to structural, electronic, optical, and thermoelectric aspects**
Mekki H., Baaziz H., Charifi Z., Ghellab T., GENÇ A. E., UĞUR Ş., UĞUR G.
Solid State Communications, vol.363, 2023 (SCI-Expanded)

IX. **The activation of B-H bonds in borohydride on Cu(100) and Cu (110) surfaces**
Akca A., Genc A. E., Kutlu B.
COMPUTATIONAL AND THEORETICAL CHEMISTRY, vol.1203, 2021 (SCI-Expanded)

X. **Hydrazine decomposition on nickel-embedded graphene**
GENÇ A. E., KÜÇÜK H., ALP İ., Akca A.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.45, no.58, pp.33407-33418, 2020 (SCI-Expanded)

XI. **BH4 dissociation on various metal (111) surfaces: A DFT study**
Akca A., Genc A. E., Kutlu B.
APPLIED SURFACE SCIENCE, vol.473, pp.681-692, 2019 (SCI-Expanded)

XII. **The catalytic effect of the Au(111) and Pt(111) surfaces to the sodium borohydride hydrolysis reaction mechanism: A DFT study**
Genc A. E., Akca A., KUTLU B.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.43, no.31, pp.14347-14359, 2018 (SCI-Expanded)

XIII. **The estimation of a (kT(C)(p)/J, p) phase diagram for a two-dimensional site-diluted Ising model using a microcanonical algorithm**
KUTLU B., GENÇ A. E.
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.392, no.3, pp.451-457, 2013 (SCI-Expanded)

Papers Published in Refereed Scientific Meetings

I. **Catch the Heat!**
Tranca I., Shkatulov A., GENÇ A. E., KÜÇÜK H., de Boek H., Linder M., Tielens F.
The 19th International Conference on Density Functional Theory and its Applications (DFT2022), Brussels,

Belgium, 28 August - 02 September 2022, pp.186

II. **Catalytic activity Au(210) surface for sodium and Lithium borohydride hydrolysis reactions: A DFT study.**
GENÇ A. E., AKÇA A., KUTLU B.
İnternational Symposium on Chemistry and Computation, İstanbul, Turkey, 30 October 2017, pp.65-66

III. **Catalitic activity of Pt(111)and Au(111)Surface on sodium borohydride hydrolisis: a dft study**
AKÇA A., GENÇ A. E., KUTLU B.
TFD33, Muğla, Turkey, 6 - 10 September 2017

IV. **dft studt of the hydroxyl ion co-adsorbtion effect on Pt(111)and Au(111) surfaces to sodium borohyride hydrolysis reaction**
GENÇ A. E., AKÇA A., KUTLU B.
TFD33, Muğla, Turkey, 6 September - 10 June 2017

V. **CATALYTIC ACTIVITY OF LOW-INDEX Au(111), Au(100) AND Au(110) HIGH-INDEX Au(210) SURFACES FOR SODIUM BOROHYDRIDE HYDROLYSIS REACTION**
GENÇ A. E., AKÇA A., KUTLU B.
TFD33, Muğla, Turkey, 6 - 10 September 2017

VI. **Catalysis of sodium borohydride in non catalayed solution**
GENÇ A. E., KUTLU B.
TURKİSH PHYSİCAL SOCIETY 32. INTERNATIONAL PHYSICS CONGRESS, 6 - 09 September 2016, vol.1, pp.134

VII. **NaBH4 Hidrolizinde Au 111 Yüzeyininin Katalitik Etkisis**
GENÇ A. E., KUTLU B.
21. Yoğun Madde Fiziği Ankara Toplantısı, Turkey, 25 December 2015

Supported Projects

Genç A. E., Tranca I. C., H2020 Project, High-throughput computational screening of materials for high-temperatures heat storage, 2020 - 2021

Metrics

Publication: 20
Citation (WoS): 56
Citation (Scopus): 65
H-Index (WoS): 4
H-Index (Scopus): 4

Non Academic Experience

Gazi Üniversitesi Fizik Bölümü, Öğrenci Asistan