

## Asst. Prof. Erdinç ÖZ

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### International Researcher IDs

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### Education Information

Post Doctorate, Dalhousie University, Physics and Atmospheric Science, Canada 2021 - 2022

Post Doctorate, Ihsan Dogramaci Bilkent University, Faculty Of Science, Department Of Chemistry, Turkey 2019 - 2021

Doctorate, Inonu University, Fen Bilimleri Enstitüsü, Physics, Turkey 2015 - 2019

Postgraduate, Inonu University, Fen Bilimleri Enstitüsü, Fizik, Turkey 2012 - 2015

Undergraduate, Bursa Uludağ University, Fen-Edebiyat Fakültesi, Fizik, Turkey 2003 - 2009

### Research Areas

Physics, Interdisciplinary Physics and Related Science and Technology Areas, Physical Chemistry, Materials Science

### Academic Titles / Tasks

Assistant Professor, Ataturk University, Fen Fakültesi, Fizik, 2022 - Continues

### Courses

Enerji Depolama Sistemleri ve Nanomalzeme Uygulamaları, Postgraduate, 2023 - 2024

Fizik , Undergraduate, 2023 - 2024

Fizik , Undergraduate, 2023 - 2024

Energy Storage Systems and Nanomaterials Applications, Postgraduate, 2023 - 2024

Energy Storage System and Nano-material Applications, Postgraduate, 2022 - 2023

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

- I. High-performance Na-ion full-cells with P2-type  $\text{Na}_{0.67}\text{Mn}_{0.5-x}\text{Ni}_x\text{Fe}_{0.43}\text{Al}_{0.07}\text{O}_2$  cathodes: Cost analysis for stationary battery storage systems**  
Kalyoncuoglu B., Ozgul M., ALTUNDAĞ S., BULUT F., ÖZ E., Sahinbay S., ALTIN S.  
Journal of Energy Storage, vol.79, 2024 (SCI-Expanded)
- II. Unveiling the outstanding full-cell performance of P2-type  $\text{Na}_{0.67}(\text{Mn}_{0.44}\text{Ni}_{0.06}\text{Fe}_{0.43}\text{Ti}_{0.07})\text{O}_2$  cathode active material for Na-ion batteries**  
Kalyoncuoglu B., Ozgul M., ALTUNDAĞ S., Harfouche M., ÖZ E., Avci S., Ji X., ALTIN S., Ates M. N.

Journal of Power Sources, vol.591, 2024 (SCI-Expanded)

- III. **P2-type Na<sub>0.67</sub>Mn<sub>0.5</sub>-xVxFe<sub>0.43</sub>Ti<sub>0.07</sub>O<sub>2</sub> powders for Na-ion cathodes: Ex-situ structural analysis and full-cell study**  
Dogan E., ALTUNDAĞ S., ALTIN E., ÖZ E., ALTIN S.  
Electrochimica Acta, vol.473, 2024 (SCI-Expanded)
- IV. **Tunnel/Layer Composite Na<sub>0.44</sub>MnO<sub>2</sub> Cathode Material with Enhanced Structural Stability via Cobalt Doping for Sodium-Ion Batteries**  
Oz E., Altin S., Avci S.  
ACS OMEGA, vol.8, no.30, pp.27170-27178, 2023 (SCI-Expanded)
- V. **Investigation of physical and electrochemical properties of Ni-doped Tunnel/P2 hybrid Na<sub>0.44</sub>MnO<sub>2</sub> cathode material for sodium-ion batteries**  
ÖZ E., ALTIN S., Avci S.  
JOURNAL OF SOLID STATE CHEMISTRY, vol.318, 2023 (SCI-Expanded)
- VI. **Pd-NHC complex catalyzed C-H bond activation reactions of caffeine and 2-isobutylthiazole**  
Bugday N., Khan S., YAŞAR S., BULUT F., Boulebd H., KARABIYIK H., KARABIYIK H., ÖZ E., Rehman A. U., ÖZDEMİR İ.  
MOLECULAR CATALYSIS, vol.530, 2022 (SCI-Expanded)
- VII. **Localized X-ray photoelectron impedance spectroscopy (LoXPIS) for capturing charge dynamics of an ionic liquid electrolyte within an energy storage device**  
Basaran M., Oz E., Ergoktas S., Kocabas C., Ulgut B., Kocabas A., Suzer S.  
FARADAY DISCUSSIONS, vol.236, no.0, pp.86-102, 2022 (SCI-Expanded)
- VIII. **Magnetic Properties and Environmental Temperature Effects on Battery Performance of Na<sub>0.67</sub>Mn<sub>0.5</sub>Fe<sub>0.5</sub>O<sub>2</sub>**  
ALTIN S., BAYRİ A., ALTIN E., Oz E., YAŞAR S., Altundag S., Harfouche M., AVCI S.  
ENERGY TECHNOLOGY, vol.9, no.5, 2021 (SCI-Expanded)
- IX. **Structural and magnetic characterisation of Co substituted Ni<sub>2</sub>MnSb Heusler alloy: effect of cobalt substitution on magnetism and Curie temperature**  
Oz E., Ak F., SAATÇI B.  
PHILOSOPHICAL MAGAZINE, vol.101, no.2, pp.242-256, 2021 (SCI-Expanded)
- X. **Surface Propensity of Anions in a Binary Ionic-Liquid Mixture Assessed by Full-Range Angle-Resolved X-ray Photoelectron Spectroscopy and Surface-Tension Measurements**  
Oz E., Sahin O., Okur H. I., Suzer S.  
CHEMPHYSICHEM, vol.21, no.21, pp.2397-2401, 2020 (SCI-Expanded)
- XI. **LiNi<sub>0.8</sub>Co<sub>0.15</sub>Ti<sub>0.05</sub>O<sub>2</sub>: synthesis by solid state reaction and investigation of structural and electrochemical properties with enhanced battery performance**  
Bayri A., Gocer E., ALTIN E., ALTUNDAĞ S., Oz E., Harfouche M., ALTIN S., Avci S.  
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.31, no.22, pp.20527-20538, 2020 (SCI-Expanded)
- XII. **Investigation of Ti-substitution effects on structural and electrochemical properties of Na(0.)<sub>67</sub>Mn(0.)<sub>5</sub>Fe(0.)<sub>5</sub>O<sub>2</sub> battery cells**  
ALTIN S., Altundag S., ALTIN E., Oz E., Harfouche M., BAYRİ A.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, no.14, pp.11794-11806, 2020 (SCI-Expanded)
- XIII. **Synthesis of Na<sub>2</sub>Ti<sub>3</sub>O<sub>7</sub> nanorods by a V-assisted route and investigation of their battery performance**  
ALTIN S., Demirel S., Oz E., ALTIN E., Hetherington C., BAYRİ A., AVCI S.  
CRYSTENGCOMM, vol.22, no.14, pp.2483-2490, 2020 (SCI-Expanded)
- XIV. **Investigation of hybrid-capacitor properties of ruthenium complexes**  
ALTIN S., Oz E., Altundag S., BAYRİ A., Roisnel T., Dorcet V., Bruneau C., ÖZDEMİR İ., YAŞAR S.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.43, no.13, pp.6840-6851, 2019 (SCI-Expanded)
- XV. **Structural and magnetic properties of Ni<sub>2-x</sub>CoxMnSb (x: 0.00, 0.25, 0.50 and 1.00) Heusler alloys: The relationship between Curie temperature and lattice parameter**  
Ak F., Oz E., SAATÇI B.

INTERMETALLICS, vol.111, 2019 (SCI-Expanded)

- XVI. **Cationic versus anionic Pt complex: The performance analysis of a hybrid-capacitor, DFT calculation and electrochemical properties**  
Akkoc M., Demirel S., Oz E., ALTIN S., BAYRİ A., Dorcet V., Roisnel T., Bruneau C., ÖZDEMİR İ., YAŞAR S.  
POLYHEDRON, vol.157, pp.434-441, 2019 (SCI-Expanded)
- XVII. **Investigations of the capacity fading mechanism of Na(0.44)MnO(2) via ex situ XAS and magnetization measurements**  
ALTIN S., Oz E., ALTIN E., Demirel S., BAYRİ A., AVCI S.  
DALTON TRANSACTIONS, vol.47, no.47, pp.17102-17108, 2018 (SCI-Expanded)
- XVIII. **Structural, magnetic, electrical, and electrochemical properties of Sr-Co-Ru-O: A hybrid-capacitor application**  
ALTIN S., BAYRİ A., Demirel S., Oz E., ALTIN E., AVCI S.  
JOURNAL OF THE AMERICAN CERAMIC SOCIETY, vol.101, no.10, pp.4572-4581, 2018 (SCI-Expanded)
- XIX. **Investigation of potential hybrid capacitor property of chelated N-Heterocyclic carbene Ruthenium(II) complex**  
Akkoc M., Oz E., Demirel S., Dorcet V., Roisnel T., BAYRİ A., Bruneau C., ALTIN S., YAŞAR S., ÖZDEMİR İ.  
JOURNAL OF ORGANOMETALLIC CHEMISTRY, vol.866, pp.214-222, 2018 (SCI-Expanded)
- XX. **X-ray Raman spectroscopy of lithium-ion battery electrolyte solutions in a flow cell**  
KETENOĞLU D., Spiekermann G., Harder M., Oz E., Koz C., Yagci M. C., Yilmaz E., Yin Z., Sahle C. J., Detlefs B., et al.  
JOURNAL OF SYNCHROTRON RADIATION, vol.25, pp.537-542, 2018 (SCI-Expanded)
- XXI. **Fabrication of Ca-Mn-Nb-O compounds and their structural, electrical, magnetic and thermoelectric properties**  
Oz E., DEMİREL S., ALTIN S., ALTIN E., Baglayan O., BAYRİ A., AVCI S.  
MATERIALS RESEARCH EXPRESS, vol.5, no.3, 2018 (SCI-Expanded)
- XXII. **Structural, magnetic, electrical and electrochemical properties of SrCo<sub>0.25</sub>, Sr<sub>9</sub>Co<sub>2</sub>Mn<sub>5</sub>O<sub>21</sub> and SrMnO<sub>3</sub> compounds**  
DEMİREL S., Oz E., ALTIN S., BAYRİ A., Baglayan O., ALTIN E., AVCI S.  
CERAMICS INTERNATIONAL, vol.43, no.17, pp.14818-14826, 2017 (SCI-Expanded)
- XXIII. **Thermally Induced Spin State Transition in LiCoO<sub>2</sub> and Its Effects on Battery Performance**  
Oz E., Demirel S., ALTIN S., ALTIN E., BAYRİ A., AVCI S.  
ELECTROCHIMICA ACTA, vol.248, pp.449-453, 2017 (SCI-Expanded)
- XXIV. **Ring-expanded iridium and rhodium N-heterocyclic carbene complexes: a comparative DFT study of heterocycle ring size and metal center diversity**  
KARACA E. Ö., Akkoc M., Oz E., ALTIN S., Dorcet V., Roisnel T., GÜRBÜZ N., Celik O., BAYRİ A., Bruneau C., et al.  
JOURNAL OF COORDINATION CHEMISTRY, vol.70, no.7, pp.1270-1284, 2017 (SCI-Expanded)
- XXV. **Synthesis of ultra-thin nanobristles of Na-Mn-O compounds and their magnetic and structural properties**  
Oz E., DEMİREL S., ALTIN S., BAYRİ A., AVCI S.  
CERAMICS INTERNATIONAL, vol.42, no.15, pp.17059-17066, 2016 (SCI-Expanded)
- XXVI. **Fabrication and electrochemical properties of LiCo<sub>1-x</sub>Ru<sub>x</sub>O<sub>2</sub> cathode materials for Li-ion battery**  
Oz E., DEMİREL S., ALTIN S.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.671, pp.24-33, 2016 (SCI-Expanded)
- XXVII. **Electrochemical effects and magnetic properties of B substituted LiCoO<sub>2</sub>: Improving Li-battery performance**  
Oz E., ALTIN S., DEMİREL S., BAYRİ A., ALTIN E., Baglayan O., AVCI S.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.657, pp.835-847, 2016 (SCI-Expanded)
- XXVIII. **Enhancement of battery performance of LiMn<sub>2</sub>O<sub>4</sub>: correlations between electrochemical and magnetic properties**  
DEMİREL S., Oz E., ALTIN S., BAYRİ A., ALTIN E., AVCI S.  
RSC ADVANCES, vol.6, no.49, pp.43823-43831, 2016 (SCI-Expanded)
- XXIX. **Magnetic and microstructural properties of LiCrO<sub>2</sub>.Cr<sub>2</sub>O<sub>3</sub> system by doping of the boron ions**

DEMİREL S., Oz E., BAYRİ A., ALTIN S.

JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.26, no.11, pp.9178-9184, 2015 (SCI-Expanded)

- XXX. **Growth mechanism and magnetic and electrochemical properties of Na<sub>0.44</sub>MnO<sub>2</sub> nanorods as cathode material for Na-ion batteries**

DEMİREL S., Oz E., ALTIN E., ALTIN S., BAYRİ A., Kaya P., Turan S., Avci S.

MATERIALS CHARACTERIZATION, vol.105, pp.104-112, 2015 (SCI-Expanded)

- XXXI. **Magnetic and thermoelectric properties of B-substituted NaCoO<sub>2</sub>**

ALTIN E., Oz E., Demirel S., BAYRİ A.

APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING, vol.119, no.3, pp.1187-1196, 2015 (SCI-Expanded)

- XXXII. **An enhancement ZT and spin state transition of Ca<sub>3</sub>Co<sub>4</sub>O<sub>9</sub> with Pb doping**

Demirel S., ALTIN E., Oz E., ALTIN S., Bayri A.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.627, pp.430-437, 2015 (SCI-Expanded)

- XXXIII. **Thermoelectric and mechanical properties of Mg-Al-Sb alloys**

ALTIN E., Oz E., ERDEM M., DEMİREL S., AYDOĞDU Y., ALTIN S.

JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.26, no.2, pp.1023-1032, 2015 (SCI-Expanded)

- XXXIV. **Thermal and mechanical properties of La-Al-Sb alloys**

ALTIN E., Oz E., DEMİREL S., ERDEM M.

JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.25, no.12, pp.5331-5337, 2014 (SCI-Expanded)

- XXXV. **Vortex pinning and magnetic peak effect in Eu(Eu,Ba)<sub>(2.125)</sub>Cu<sub>3</sub>O<sub>x</sub>**

ALTIN E., Gokhfeld D. M., DEMİREL S., Oz E., Kurt F., ALTIN S., YAKINCI M. C.

JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.25, no.3, pp.1466-1473, 2014 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Mn and Ti Co-doping of LiNiO<sub>2</sub> to Improve Performance**

ÖZ E., ÖZ E., DAHN J.

Firat University journal of experimental and computational engineering (Online), vol.3, no.3, pp.280-291, 2024 (Peer-Reviewed Journal)

- II. **The mechanical and heat conducting properties of dental composites**

Kamalak H., Oz E., Demirel S., ALTIN S.

BIOINTERFACE RESEARCH IN APPLIED CHEMISTRY, vol.6, no.6, pp.1710-1716, 2016 (ESCI)

- III. **The leakage study between restorative and pulp capping materials and diffusion analysis by Fick laws**

Kamalak H., Demirel S., Oz E., ALTIN S.

BIOINTERFACE RESEARCH IN APPLIED CHEMISTRY, vol.6, no.1, pp.1042-1048, 2016 (ESCI)

## Supported Projects

İçin K., Öztürk S., Alver Ü., Öz E., Bilgin S., Batalovic K., Ersöz M., TUBITAK Project, Li-Bataryalar ve Süperkapasitörler için Enerji Verimliliği Yüksek Nanofiber Formunda Yüksek Entropili Oksitlerin Tasarımı ve Özelliklerinin Geliştirilmesi, 2023 - 2026

## Patent

Öz E., Li-ion and na-ion batteries with high capacity and long cycle life and synthesis technique of the cathode materials that are used in these batteries, Patent, CHAPTER G Physics, The Invention Recourse Number: PCT/TR2016/050096 , Standard Registration, 2016

## **Scientific Refereeing**

Materials, SCI Journal, December 2022

International Journal of Innovative Research and Reviews, Other Indexed Journal, November 2022

JOURNAL OF THE AMERICAN CERAMIC SOCIETY, SCI Journal, December 2019

## **Metrics**

Publication: 38

Citation (WoS): 335

Citation (Scopus): 344

H-Index (WoS): 11

H-Index (Scopus): 11