

Prof. Sedat BALLIKAYA

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International Researcher IDs

Publons / Web Of Science ResearcherID: AAS-7753-2020

Yoksis Researcher ID: 100945

Education Information

Post Doctorate, University of Michigan, Lsa, Physics, United States Of America 2013 - 2014

Doctorate, Istanbul University, Fen Bilimleri, Genel Fizik, Turkey 2006 - 2010

Postgraduate, Istanbul University, Fen Bilimleri, Fizik, Turkey 2002 - 2006

Undergraduate, Istanbul University, Faculty Of Science, Fizik, Turkey 1998 - 2002

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, The Transport Properties of CoSb₃ Based Skutterudite Compounds, Istanbul University, Faculty of Science, Fizik, 2010

Postgraduate, Conductivity Properties of TlBi(Se_{1-x}Sx)₂ Crystals, Istanbul University, Faculty of Science, Fizik, 2006

Research Areas

Electrical and Electronics Engineering, Electronic, Energy, Renewable energy, Physics, Interdisciplinary Physics and Related Science and Technology Areas, Electronic and magnetic devices, microelectronics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Transport Phenomena in Condensed Matter, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul University, Faculty of Science, Department of Physics, 2020 - Continues

Associate Professor, Istanbul University, Faculty of Science, Department of Physics, 2013 - 2020

Research Assistant, Istanbul University, Faculty of Science, Department of Physics, 2006 - 2013

Other, University of Michigan, Literature, Science And Art, Physics, 2011 - 2012

Other, University of Michigan, Literature, Science And Art, Physics, 2010 - 2010

Other, University of Michigan, Literature, Science And Art, Physics, 2008 - 2010

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Optimization of high-performance flexible thermoelectric generator from material synthesis to simulation and device application**
GÜRKAN K., Karaman H., BALLIKAYA S.
Energy Conversion and Management, vol.291, 2023 (SCI-Expanded)
- II. **Performance analysis of concentrated photovoltaic systems using thermoelectric module with phase change material**
Yusuf A., BALLIKAYA S.
Journal of Energy Storage, vol.59, 2023 (SCI-Expanded)
- III. **Modeling of a thermoelectric cooler system, design and optimization of the system's controller**
Yusuf A., Koc T., Arikusu Y. S., Tiryaki H., Bayhan N., Ballikaya S.
SADHANA-ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES, vol.47, no.3, 2022 (SCI-Expanded)
- IV. **Electrical, thermomechanical and cost analyses of a low-cost thermoelectric generator**
Yusuf A., Ballikaya S.
ENERGY, vol.241, 2022 (SCI-Expanded)
- V. **Exergy analysis of a novel concentrated photovoltaic-thermoelectric system**
Yusuf A., Ballikaya S.
INTERNATIONAL JOURNAL OF EXERGY, vol.39, no.1, pp.117-127, 2022 (SCI-Expanded)
- VI. **Exergetic assessment of a concentrated photovoltaic-thermoelectric system with consideration of contact resistance**
Yusuf A., Ballikaya S.
INTERNATIONAL JOURNAL OF EXERGY, vol.38, no.4, pp.411-421, 2022 (SCI-Expanded)
- VII. **Thermal resistance analysis of trapezoidal concentrated photovoltaic-Thermoelectric systems**
Yusuf A., Ballikaya S.
ENERGY CONVERSION AND MANAGEMENT, vol.250, 2021 (SCI-Expanded)
- VIII. **Minute-Made, High-Efficiency Nanostructured Bi₂Te₃ via High-Throughput Green Solution Chemical Synthesis**
Hamawandi B., Batili H., Paul M., Ballikaya S., Kilic N. I., Szukiewicz R., Kuchowicz M., Johnsson M., Toprak M. S.
NANOMATERIALS, vol.11, no.8, 2021 (SCI-Expanded)
- IX. **Editorial: Recent Advances in Waste-Heat Harvesting via Thermoelectrics: From Theory to Materials and Devices**
Toprak M. S., Ballikaya S., Celik E.
FRONTIERS IN MATERIALS, vol.8, 2021 (SCI-Expanded)
- X. **Multi-objective optimization of concentrated Photovoltaic-Thermoelectric hybrid system via non-dominated sorting genetic algorithm (NSGA II)**
Yusuf A., BAYHAN N., TIRYAKI H., Hamawandi B., Toprak M. S., Ballikaya S.
ENERGY CONVERSION AND MANAGEMENT, vol.236, 2021 (SCI-Expanded)
- XI. **Geometric optimization of thermoelectric generator using genetic algorithm considering contact resistance and Thomson effect**
Yusuf A., BAYHAN N., Ibrahim A. A., TIRYAKI H., Ballikaya S.
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.45, no.6, pp.9382-9395, 2021 (SCI-Expanded)
- XII. **Thermoelectric performance of Cu₂Se doped with rapidly synthesized gel-like carbon dots**
Oztan C. Y., Hamawandi B., Zhou Y., Ballikaya S., Toprak M. S., Leblanc R. M., Coverstone V., Celik E.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.864, 2021 (SCI-Expanded)
- XIII. **The Effect of Crystal Mismatch on the Thermoelectric Performance Enhancement of Nano Cu₂Se**
Demirci Y., Yusuf A., Hamawandi B., Toprak M. S., Ballikaya S.
FRONTIERS IN MATERIALS, vol.7, 2021 (SCI-Expanded)
- XIV. **A Comparative Study on the Thermoelectric Properties of Bismuth Chalcogenide Alloys Synthesized through Mechanochemical Alloying and Microwave-Assisted Solution Synthesis Routes**
Hamawandi B., Mansouri H., Ballikaya S., Demirci Y., Orlovskaya M., Bolghanabadi N., Sajjadi S. A., Toprak M. S.
FRONTIERS IN MATERIALS, vol.7, 2020 (SCI-Expanded)

- XV. **Composition Tuning of Nanostructured Binary Copper Selenides through Rapid Chemical Synthesis and Their Thermoelectric Property Evaluation**
Hamawandi B., BALLIKAYA S., Rasander M., Halim J., Vinciguerra L., Rosen J., Johnsson M., Toprak M. S.
NANOMATERIALS, vol.10, no.5, 2020 (SCI-Expanded)
- XVI. **Theoretical and experimental evaluation of thermoelectric performance of alkaline earth filled skutterudite compounds**
YELGEL Ö. C., Ballikaya S.
Journal of Solid State Chemistry, vol.284, 2020 (SCI-Expanded)
- XVII. **Facile solution synthesis, processing and characterization of n-and p-type binary and ternary Bi-Sb tellurides**
Hamawandi B., BALLIKAYA S., Batili H., Roosmark V., Orlovská M., Yusuf A., Johnsson M., Szukiewicz R., Kuchowicz M., Toprak M. S.
Applied Sciences (Switzerland), vol.10, no.3, 2020 (SCI-Expanded)
- XVIII. **Modelling a segmented skutterudite-based thermoelectric generator to achieve maximum conversion efficiency**
Yusuf A., BALLIKAYA S.
Applied Sciences (Switzerland), vol.10, no.1, 2020 (SCI-Expanded)
- XIX. **Fracture structure and thermoelectric enhancement of Cu₂Se with substitution of nanostructured Ag₂Se**
Ballikaya S., Sertkol M., Oner Y., Bailey T. P., Uher C.
PHYSICAL CHEMISTRY CHEMICAL PHYSICS, vol.21, no.25, pp.13569-13577, 2019 (SCI-Expanded)
- XX. **Additive manufacturing of thermoelectric materials via fused filament fabrication**
Oztan C., Ballikaya S., Ozgun U., Karkkainen R., Celik E.
APPLIED MATERIALS TODAY, vol.15, pp.77-82, 2019 (SCI-Expanded)
- XXI. **Thermoelectric and thermal stability improvements in Nano-Cu₂Se included Ag₂Se**
Ballikaya S., Oner Y., Temel T., Özkal B., BAILEY T. P., Toprak M. S., Uher C.
JOURNAL OF SOLID STATE CHEMISTRY, vol.273, pp.122-127, 2019 (SCI-Expanded)
- XXII. **Charge-carrier behavior in Ba-, Sr- and Yb-filled CoSb₃: NMR and transport studies**
TIAN Y., SIRUSI A. A., Ballikaya S., GHASSEMI N., Uher C., ROSS J. H.
PHYSICAL REVIEW B, vol.99, no.12, 2019 (SCI-Expanded)
- XXIII. **Thermoelectric properties and EPR analysis of Fe doped Cu₁₂Sb₄S₁₃**
Guler A., Ballikaya S., Boyraz C., Okay C., Shulgin D., Rameev B.
JOURNAL OF SOLID STATE CHEMISTRY, vol.269, pp.547-552, 2019 (SCI-Expanded)
- XXIV. **Thermoelectric and Magnetic Properties of Pt-Substituted BaFe_{4-x}PtxSb₁₂ Compounds**
Sertkol M., Ballikaya S., Aydogdu F., GÜLER A., ÖZDEMİR M., Oner Y.
JOURNAL OF ELECTRONIC MATERIALS, vol.46, no.1, pp.73-78, 2017 (SCI-Expanded)
- XXV. **Band Ordering and Dynamics of Cu_{2-x}Te and Cu_{1.98}Ag_{0.2}Te**
SIRUSI A. A., Ballikaya S., CHEN J., Uher C., ROSS J. H.
JOURNAL OF PHYSICAL CHEMISTRY C, vol.120, no.27, pp.14549-14555, 2016 (SCI-Expanded)
- XXVI. **Promising bulk nanostructured Cu₂Se thermoelectrics via high throughput and rapid chemical synthesis**
Tafti M. Y., Ballikaya S., Khachatourian A. M., Noroozi M., Saleemi M., Han L., Nong N. V., Bailey T., Uher C., Toprak M. S.
RSC ADVANCES, vol.6, no.112, pp.111457-111464, 2016 (SCI-Expanded)
- XXVII. **Low-Temperature Structure and Dynamics in Cu₂Se**
SIRUSI A. A., Ballikaya S., Uher C., ROSS J. H.
JOURNAL OF PHYSICAL CHEMISTRY C, vol.119, no.35, pp.20293-20298, 2015 (SCI-Expanded)
- XXVIII. **Ultralow thermal conductivity of beta-Cu₂Se by atomic fluidity and structure distortion**
Kim H., Ballikaya S., Chi H., Ahn J., Ahn K., Uher C., Kaviani M.
ACTA MATERIALIA, vol.86, pp.247-253, 2015 (SCI-Expanded)
- XXIX. **Enhanced thermoelectric performance of optimized Ba, Yb filled and Fe substituted skutterudite**

compounds

Ballikaya S., Uher C.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.585, pp.168-172, 2014 (SCI-Expanded)

- XXX. **Lower Thermal Conductivity and Higher Thermoelectric Performance of Fe-Substituted and Ce, Yb Double-Filled p-Type Skutterudites**
Ballikaya S., Uzar N., Yildirim S., Chi H., Su X., Tan G., Tang X., Uher C.
JOURNAL OF ELECTRONIC MATERIALS, vol.42, no.7, pp.1622-1627, 2013 (SCI-Expanded)
- XXXI. **Investigation of classical and fractional Bose-Einstein condensation for harmonic potential**
Uzar N., Ballikaya S.
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS, vol.392, no.8, pp.1733-1741, 2013 (SCI-Expanded)
- XXXII. **Thermoelectric properties of Ag-doped Cu₂Se and Cu₂Te**
Ballikaya S., Chi H., Salvador J. R., Uher C.
JOURNAL OF MATERIALS CHEMISTRY A, vol.1, no.40, pp.12478-12484, 2013 (SCI-Expanded)
- XXXIII. **Electrical and thermal properties of Fe substituted double-filled BaxYbyFezCo4-zSb12 skutterudites**
Ballikaya S., Uzar N., Yildirim S., Salvador J. R.
JOURNAL OF SOLID STATE CHEMISTRY, vol.197, pp.440-446, 2013 (SCI-Expanded)
- XXXIV. **High thermoelectric performance of In, Yb, Ce multiple filled CoSb₃ based skutterudite compounds**
Ballikaya S., Uzar N., Yildirim S., Salvador J. R., Uher C.
JOURNAL OF SOLID STATE CHEMISTRY, vol.193, pp.31-35, 2012 (SCI-Expanded)
- XXXV. **Thermoelectric Properties of Triple-Filled BaxYbyInzCo4Sb12 Skutterudites**
Ballikaya S., Wang G., Sun K., Uher C.
JOURNAL OF ELECTRONIC MATERIALS, vol.40, no.5, pp.570-576, 2011 (SCI-Expanded)
- XXXVI. **Thermoelectric enhancement in PbTe with K or Na codoping from tuning the interaction of the light- and heavy-hole valence bands**
Androulakis J., Todorov I., Chung D., Ballikaya S., Wang G., Uher C., Kanatzidis M.
PHYSICAL REVIEW B, vol.82, no.11, 2010 (SCI-Expanded)
- XXXVII. **Charge-Compensated n-Type Skutterudites**
Uher C., Li C., Ballikaya S.
JOURNAL OF ELECTRONIC MATERIALS, vol.39, no.9, pp.2122-2126, 2010 (SCI-Expanded)
- XXXVIII. **Figure of Merit of (Sb_{0.75}Bi_{0.25})(2-x) In (x) Te_{2.8}Se_{0.2} Single Crystals**
Drasar C., Hovorkova A., Lostak P., Ballikaya S., Li C. -, Uher C.
JOURNAL OF ELECTRONIC MATERIALS, vol.39, no.9, pp.1760-1763, 2010 (SCI-Expanded)
- XXXIX. **High thermoelectric efficiency in co-doped degenerate p-type PbTe**
Androulakis J., Todorov I., Chung D., BALLIKAYA S., Wang G., Uher C., Kanatzidis M.
MRS, vol.1267, pp.4-8, 2010 (SCI-Expanded)
- XL. **Exploring Resonance Levels and Nanostructuring in the PbTe-CdTe System and Enhancement of the Thermoelectric Figure of Merit**
Ahn K., Han M., He J., Androulakis J., Ballikaya S., Uher C., Dravid V. P., Kanatzidis M. G.
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol.132, no.14, pp.5227-5235, 2010 (SCI-Expanded)
- XLI. **Microstructure and Thermoelectric Properties of Mechanically Robust PbTe-Si Eutectic Composites**
Sootsman J. R., He J., Dravid V. P., Ballikaya S., Vermeulen D., Uher C., Kanatzidis M. G.
CHEMISTRY OF MATERIALS, vol.22, no.3, pp.869-875, 2010 (SCI-Expanded)
- XLII. **Thermoelectric properties of Bi₂O₂Se**
Ruleova P., Drasar C., Lostak P., Li C. P., BALLIKAYA S., Uher C.
MATERIALS CHEMISTRY AND PHYSICS, vol.119, pp.299-302, 2010 (SCI-Expanded)
- XLIII. **Microstructure and Thermoelectric Properties of Mechanically Robust PbTe-Si Eutectic Composites†**
Sootsman J. R., He J., Dravid V. P., BALLIKAYA S., Vermuelen D., Uher C., Kanatzidis M.
CHEMISTRY OF MATERIALS, vol.22, pp.869-875, 2009 (SCI-Expanded)

Articles Published in Other Journals

- I. **Thermoelectric Enhancement in CoSb₃ skutterudite compounds with double and triple filling of In, Yb, Ce**

Ballıkaya S., Üzar Kılıç N., Salvador J., Uher C.

AIP CONFERENCE PROCEEDINGS, vol.1449, pp.235-238, 2012 (Conference Book)

Refereed Congress / Symposium Publications in Proceedings

- I. **NMR investigation of filled skutterudites BaxYbyCo₄Sb₁₂ and AxCo₄Sb₁₂ (A = Ba, Sr)**
BALLIKAYA S.
APS March Meeting 2019, Boston, United States Of America, 3 - 07 March 2019, pp.1-3
- II. **Thermoelectric Enhancement and Thermal Stability of Nano Cu_{1.8}Se, Cu₂Se and the solid solution of Nano Cu₂Se-Fe_{3.25}Co_{0.75}Sb₁**
BALLIKAYA S.
? The 43rd International Conference and Exposition on Advanced Ceramics and Composites, Daytona Beach, United States Of America, 27 January - 01 February 2019, pp.1-2
- III. **Enhancement of Thermoelectric Figure of Merit of Bi₂Te₃ using Carbon Dots**
Celik E., Oztan C., Zhou Y., LeBlanc R., Genc O., Ballıkaya S.
ASME International Mechanical Engineering Congress and Exposition (IMECE2018), Pennsylvania, United States Of America, 9 - 15 November 2018
- IV. **Thermal Stability and Thermoelectric improvement in Nano Cu₂Se**
BALLIKAYA S.
37th International and European Conference on Thermoelectric June-July 3, 2018 Caen- France 37th International and European Conference on Thermoelectric June-July 3, 2018 Caen- France, Caen, France, 30 July 2018 - 03 August 2019, pp.1
- V. **Enhancement of thermoelectric figure of merit of Bi₂Te₃ using carbon dots**
Celik E., Oztan C., Zhou Y., LeBlanc R., Genc O., BALLIKAYA S.
ASME 2018 International Mechanical Engineering Congress and Exposition, IMECE 2018, Pennsylvania, United States Of America, 9 - 15 November 2018
- VI. **NMR study of partially filled skutterudites AxCo₄Sb₁₂ (A = Yb, Ba, Sr, Ca) and BaxYbyCo₄Sb₁₂.***
BALLIKAYA S.
APS March Meeting 2017, Louisiana, United States Of America, 13 March 2017 - 17 March 2018, vol.62, no.4, pp.2
- VII. **NMR and calorimetry of CuAgSe and CuAgSe_{0.5}Te**
BALLIKAYA S.
APS March Meeting 2017, Louisiana, United States Of America, 13 March 2017 - 17 March 2018, vol.62, no.4, pp.1
- VIII. **NMR and calorimetry of CuAgSe and CuAgSe_{0.5}Te_{0.5}**
BALLIKAYA S.
APS March Meeting 2017, Boston, United States Of America, 11 - 17 March 2017, pp.1
- IX. **NMR and specific heat study of atomic dynamics and spin-orbit behavior in Cu_{2-x}AgyTe**
BALLIKAYA S.
APS March Meeting 2016, Baltimore, United States Of America, 14 - 18 March 2016, pp.110020
- X. **NMR study of Cu₂Se and Cu_{1.98}Ag_{0.2}Se superionic conductors**
BALLIKAYA S.
APS March Meeting 2015, Texas, United States Of America, 2 March - 06 April 2015, vol.1, pp.12010
- XI. **NMR Study of Cu δ_{2} Se Superionic Conductor**
BALLIKAYA S.
Bulletin of the American Physical Society, Texas, United States Of America, 17 - 19 October 2014, vol.59, no.12, pp.5
- XII. **New Thermoelectric Materials; Skutterudites**
BALLIKAYA S.

- Turkish Physical Society 29th International Physics Congress, Turkey, 1 - 04 September 2012, vol.29, pp.150-151
- XIII. **Lower Thermal Conductivity and Higher Thermoelectric Performance of Fe-Substituted and Ce, Yb Double-Filled P-type Skutterudites**
BALLIKAYA S., ÜZAR N., Yıldırım S., Su X., Tan G., Tang X., Uher C.
The 31st International and 10th European Conference on Thermoelectrics,, Aalborg, Denmark, 9 - 12 July 2012, pp.235-239
- XIV. **Thermoelectric Enhancement in CoSb₃ skutterudite compounds with double and triple filling of In, Yb, Ce**
Ballıkaya S., Uzar N., Yildirim S., SALVADOR J. R., UHER C.
9th European Conference on Thermoelectrics (ECT), Thessaloniki, Greece, 28 - 30 September 2011, vol.1449, pp.235-238
- XV. **Thermoelectric enhancement in CoSb₃ skutterudite compounds with double and triple filling of In, Yb, Ce**
Ballıkaya S., Üzar Kılıç N., Salvador J. R., Uher C.
9th European Conference on Thermoelectrics,, Thessaloniki, Greece, 28 September 2011, pp.235-238
- XVI. **Thermoelectric enhancement in CoSb₃ skutterudite compounds with double and triple filling of In, Yb, Ce**
Ballıkaya S., Üzar Kılıç N., Salvador J. R., Uher C.
9th European Conference on Thermoelectrics,, Thessaloniki, Greece, 28 September 2011, pp.22
- XVII. **Recent Developments In Thermoelectric Materials; Nano-Structure And Multiple Filling Skutterudite Compounds**
Ballıkaya S., Uzar N., Yildirim S.
Turkish Physical Society 28th International Physics Congress, Muğla, Turkey, 1 - 04 September 2011, vol.28, pp.134
- XVIII. **High Temperature Thermoelectric Properties Of Yb, In And Sr Filled Cosb₃ Based Skutterudite Compounds**
Yildirim S., Ballıkaya S., Uzar N.
Turkish Physical Society 28th International Physics Congress, Muğla, Turkey, 1 - 04 September 2011, vol.28, pp.187
- XIX. **Thermoelectric Enhancement in CoSb₃ skutterudite compounds with double and triple filling of In, Yb, Ce**
BALLIKAYA S., ÜZAR N., Salvador J. R., Uher C.
9th European Conference on Thermoelectrics, Greece, Greece, 1 - 04 September 2011, pp.220
- XX. **Thermoelectric Properties of Ba, Yb In Filled Skutterudites**
BALLIKAYA S.
29th International Conference on Themoelectrics, China, 1 - 04 June 2010, vol.29, pp.157
- XXI. **High thermoelectric efficiency in co-doped degenerate p-type PbTe**
Androulakis J., Todorov I., Chung D., Ballıkaya S., Wang G., Uher C., Kanatzidis M.
Symposium DD on Thermoelectric Materials -Growth, Properties, Novel Characterization Methods, and Applications at MRS Spring Meeting, San-Francisco, Costa Rica, 5 - 09 April 2010, vol.1267
- XXII. **The Conductivity Properties of TlBi(Se-1-xS)₂**
BALLIKAYA S., Yildirim S.
4th Workshop & Summer School on Nanosciences & Nanotechnologies, Greece, 1 - 04 September 2007, vol.4, pp.198

Supported Projects

BALLIKAYA S., TUBITAK Project, High Efficient Thermoelectric Materials Synthesis, Characterization and Module Design,, 2019 - Continues

TİRYAKİ H., BALLIKAYA S., TUBITAK Project, İçten Yanmalı Motorlu Taşıtlar İçin Yakıt Verimliliğini Arttırıcı Ve Yenilikçi Teknolojilerin Geliştirilmesi, 2018 - Continues

Ballıkaya S., TÜBİTAK International Bilateral Joint Cooperation Program Project, Developing High Efficient Flexible TE

module and Sensor Application via Micro Structure Engineering Approach, 2020 - 2022

BALLIKAYA S., DEMİRCİ Y., SEVGİN S., TİRYAKİ H., Project Supported by Higher Education Institutions, UV Kırılma ve Makine Öğrenme Özelliklerine Sahip Üç Boyutlu Yazıcı Geliştirilerek Yüksek Verimli Yeni Nesil Termoelektrik Malzeme ve Modüllerin Üretimi, 2020 - 2022

BALLIKAYA S., ÇELİK E., BAYHAN N., TİRYAKİ H., Project Supported by Higher Education Institutions, 3D Yazıcı Tekniği ile Yüksek Verimli Bi-Sb-Te- Esaslı Termoelektrik Bileşiklerinin Geliştirilmesi ve Modül Üretimi, 2019 - 2021

BALLIKAYA S., UHER C., TOPRAK M., ÖNER Y., SERTKOL M., ŞAHİN M., ÜZAR KILIÇ N., TİRYAKİ H., MUMCU T. V., ADIGÜZEL F., et al., Project Supported by Higher Education Institutions, Atık Isının Elektrik Enerjisi Olarak Geri Kazanımına Yönelik Yüksek Verimli Termoelektrik Malzemelerin Geliştirilmesi, 2017 - 2020

Ballıkaya S., Project Supported by Defense Industry, Termoelektrik Güç Jeneratörünün Geliştirilmesi, 2018 - 2019

Ballıkaya S., TUBITAK Project, Güneş Enerjisinden Maksimum Elektrik Üretimi Sağlayacak Hibrit Solar Teknolojinin Geliştirilmesi, 2018 - 2019

BALLIKAYA S., UHER C., TİRYAKİ H., İZGİ M. H., Project Supported by Higher Education Institutions, Thermoelectric Enhancement in Cu₂Se with Substitution of Small Amount of Nano Ag₂Se, 2017 - 2018

BALLIKAYA S., Project Supported by Other Official Institutions, Termoelektrik Modül Geliştirilmesi, 2016 - 2018

BALLIKAYA S., TOPRAK M., Project Supported by Higher Education Institutions, Yüksek Verimli Nano Kompozit Cu₂-xSe Bileşiklerinin Sentezlenmesi ve Termoelektrik Özelliklerinin İncelenmesi, 2016 - 2018

BALLIKAYA S., TUBITAK Project, Yüksek Verimli Nano Yapılı Cu₂Se, Ag₂Se ve CoSb₃ Tabanlı Termoelektrik Malzemelerin Üretimi ve Termoelektrik Özelliklerinin İncelenmesi, 2016 - 2018

BALLIKAYA S., EU Supported Other Project, High Efficient Nano Kompozit Thermoelectric Materials for Energy Harvesting, 2014 - 2017

BALLIKAYA S., BAYKAL A., TOPRAK M., UHER C., Project Supported by Higher Education Institutions, Thermoelectric Enhancement in PEDOTPSS Hybrid Polymer by Aligning Polymer Chains via Magnetic Nanoparticles, 2016 - 2016

BALLIKAYA S., Project Supported by Higher Education Institutions, Stiyokmetrik Ag katkisi ile Cu₂Se bileşiğinde Termoelektrik Verimliliğin Artırılması, 2014 - 2016

BALLIKAYA S., Project Supported by Higher Education Institutions, Farklı Hazırlama Tekniklerinin modifiye Chalgonidies Bileşiklerinin Termoelektrik Özellikleri Üzerine Etkisi, 2014 - 2016

BALLIKAYA S., Project Supported by Higher Education Institutions, Soichiometrik ve over stoichiometrik Ag katkisinin Cu₂Se bileşiklerinin yapısal özellikleri üzerine etkisi, 2014 - 2014

BALLIKAYA S., Project Supported by Higher Education Institutions, Optimize Edilmiş Ba, Yb Katkili Skutterudite Bileşiklerinin Termoelektrik Özellikleri, 2013 - 2014

BALLIKAYA S., Project Supported by Higher Education Institutions, CuSe-Ag-Te Termoelektrik Bileşiklerinin Transport Özellikleri, 2012 - 2014

BALLIKAYA S., Project Supported by Higher Education Institutions, Yüksek Verimli FeCo_{1-x}Sb₃ Bazlı P-tipi Skutterudite Bileşiklerinin Transport Özellikleri, 2012 - 2012

BALLIKAYA S., Project Supported by Higher Education Institutions, Yüksek Verimli Nano-Yapılı Skutterudite Bileşiklerinin Sentezlenmesi, Termoelektrik Özelliklerinin İncelenmesi ve Teorik Modellemeler Yapılarak Transport Parametrelerinin Optimize Edilmesi, 2011 - 2012

BALLIKAYA S., Project Supported by Higher Education Institutions, Çok Katkılı Yüksek Verimli Skutterudite Bileşiklerinin Sentezlenmesi, 2011 - 2012

BALLIKAYA S., Project Supported by Higher Education Institutions, Yb, Ce, In Katkılı Yüksek Verimli Skutterudite Bileşiklerinin Transport Özellikleri, 2011 - 2011

BALLIKAYA S., Project Supported by Higher Education Institutions, Yüksek Verimli Termoelektrik Malzemelerin Sentezlenmesi, 2010 - 2011

Patent

BALLIKAYA S., GÜNEŞ ENERJİSİNDEN ELEKTRİK ÜRETİMİ SAĞLAYAN HİBRİT ÜRETEÇ, Patent, CHAPTER H Electricity, 2018

BALLIKAYA S., Çok Amaçlı Fonksiyonel Mutfak, Patent, CHAPTER A Human Needs, 2018

Activities in Scientific Journals

FRONTIERS IN MATERIALS, Special Issue Editor, 2020 - Continues

APPLIED SCIENCES-BASEL, Special Issue Editor, 2019 - 2020

Memberships / Tasks in Scientific Organizations

Turk Fizik Derneği, Member, 2013 - Continues

International Thermoelectric Society, Member, 2010 - Continues

Scientific Refereeing

Journal of Solid State Chemistry, SCI Journal, January 2014

Materials Science in Semiconductor Processing, SCI Journal, November 2013

Journal of Electronic Materials, SCI Journal, September 2013

Journal of Solid State Chemistry, SCI Journal, August 2013

Journal of Solid State Chemistry, SCI Journal, July 2013

Journal of Alloys and Compounds, SCI Journal, June 2013

Journal of Solid State Chemistry, SCI Journal, June 2013

Journal of Electronic Materials, SCI Journal, April 2013

Journal of Alloys and Compounds, SCI Journal, February 2013

Journal of Electronic Materials, SCI Journal, December 2012

Journal of Electronic Materials, SCI Journal, December 2012

Journal of Solid State Chemistry, SCI Journal, September 2012

Journal of Electronic Materials, SCI Journal, September 2012

Material Science and Engineering: B,-Advanced Functional Solid-State Materials, SCI Journal, May 2012

Scientific Research / Working Group Memberships

Center For Solar & Thermal Energy Conversion (CSTEC), University of Michigan, United States Of America,
<http://cstec.engin.umich.edu/tepv/>, 2013 - Continues

Ctirad Uher's Research Group, University of Michigan, United States Of America,
http://research.physics.lsa.umich.edu/Uher-Lab/cuher_home.html, 2013 - Continues

Metrics

Publication: 66

Citation (WoS): 824

Citation (Scopus): 787

H-Index (WoS): 13

H-Index (Scopus): 13

Congress and Symposium Activities

The 44rd International Conference and Exposition on Advanced Ceramics and Composites, Invited Speaker, Florida, United States Of America, 2020
The 43rd International Conference and Exposition on Advanced Ceramics and Composites, Invited Speaker, Florida, United States Of America, 2019
37th International and European Conference on Thermoelectric, Attendee, Caen, France, 2018
International Conference on Thermoelectric, Attendee, California, United States Of America, 2017
36th International and European Conference on Thermoelectric, Attendee, California, United States Of America, 2017
International Conference on Thermoelectric (İCT/ACT-2016), Attendee, Wuhan, China, 2016
International Conference on Thermoelectric (İCT/ACT-2016), Attendee, Tennessee, United States Of America, 2014
Turkish Physical Society 29th International Physics Congress, Attendee, Bodrum, Turkey, 2012
31sh International & 10th European Conference on Thermoelectric, Attendee, Aalborg, Denmark, 2012
Turkish Physical Society 28th International Physics Congress, Attendee, Bodrum, Turkey, 2011
9th European Conference on Thermoelectric 28-30 September, Attendee, Thessaloniki, Greece, 2011
29th International Conference on Thermoelectric, Attendee, Shanghai, China, 2010
4th Workshop & Summer School on Nanosciences & Nanotechnologies - NN07, Attendee, Thessaloniki, Turkey, 2007
6th International Conference of the Balkan Physical Union, Attendee, iSTANBUL, Turkey, 2006
ISCBPU-4 Fourth International Student Conference of the BPU, Attendee, iSTANBUL, Turkey, 2006
Second Regional ICFA Instrumentation School, Attendee, iSTANBUL, Turkey, 2005
International Workshop on Physics beyond The Standard Model, Attendee, Mugla, Turkey, 2005
Four Seas Conference, Attendee, iSTANBUL, Turkey, 2004
High Energy Physics Symposium, Attendee, Bolu, Turkey, 2004

Scholarships

2219 Yurtdisi Doktora Sonrasi Arastirma Bursu, TUBITAK, 2015 - 2015
2219 Doktora Sonrasi Arastirma Bursu, TUBITAK, 2013 - 2013
PhD. Research Scholarship, YOK, 2009 - 2010
Yurtdışı Doktora Tez Araştırma Bursu, YOK, 2008 - 2009
Yurtdisi Doktora Tez Arastirma Destegi, Foundation, 2008 - 2009

Awards

BALLIKAYA S., Bilimsel Yayinlari Destekleme, TUBITAK, May 2013
BALLIKAYA S., BAP Tesekkur Belgesi, Istanbul Universitesi, September 2012
ULUSOY Ş., ÖNAL TAŞ Ö., SELÇUK H., BİLİR S., BALLIKAYA S., ALP H., ŞAHİNLER AYL A S., ÖNAL TAŞ Ö., Yayın teşvik, TÜBİTAK, June 2011
BALLIKAYA S., BAP Tesekkur Belgesi, Istanbul Universitesi, May 2011
BALLIKAYA S., Yurtdışı Bilimsel Etkinliklere katılma Destegi, TUBITAK, June 2010
BALLIKAYA S., Bilimsel Yayinlari Destekleme, TUBITAK, May 2010