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## Education Information

Yıldız Teknik Üniversitesi, Fen Edebiyat Fakültesi, Fizik, Turkey Continues

## Research Areas

Physics, General Physics, Statistical physics, thermodynamic and nonlinear dynamic systems, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Thermal Properties of Condensed Matter, Natural Sciences

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

- **Influence of repeating sequence on structural and thermal stability of crystalline domain of bombyx mori silk fibroin**  
Aksakal B., Akdere Ü., Günay S. D. , Çağın T., Taşseven Ç.  
MATERIALS RESEARCH EXPRESS, vol.6, 2019 (Journal Indexed in SCI)
- **Ordering and diffusion in liquid magnesium antimonide (Mg<sub>3</sub>Sb<sub>2</sub>) from hypernetted-chain theory and molecular dynamics simulation**  
AKDERE Ü., GÜNAY S. D. , TAŞSEVEN Ç.  
Ionics, vol.25, pp.2711-2717, 2019 (Journal Indexed in SCI)
- **Thermal expansion and heat capacities of AgBr and AgCl at solid and liquid phases from molecular dynamics simulation**  
Akdere U.  
International Journal of Modern Physics B, vol.29, 2015 (Journal Indexed in SCI)
- **Hypernetted chain calculations of molten uranium dioxide: Comparison of rigid ion potentials**  
GÜNAY S. D. , AKDERE Ü., TAŞSEVEN Ç.  
JOURNAL OF MOLECULAR LIQUIDS, vol.173, pp.124-129, 2012 (Journal Indexed in SCI)
- **THERMOPHYSICAL PROPERTIES OF URANIUM DIOXIDE: A MOLECULAR DYNAMICS STUDY OF SOLID AND LIQUID PHASES OF STOICHIOMETRIC UO<sub>2</sub>**  
GÜNAY S. D. , KAVANOZ H. B. , AKDERE Ü., TAŞSEVEN Ç.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS B, vol.25, pp.3211-3223, 2011 (Journal Indexed in SCI)
- **MOLECULAR DYNAMICS SIMULATION OF UO<sub>2</sub>: AN ALTERNATIVE RIGID ION MODEL POTENTIAL**  
GÜNAY S. D. , AKDERE Ü., KAVANOZ H. B. , TAŞSEVEN Ç.  
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- **Freezing in halide salts**  
AKDERE Ü., Yılmaz M., Kavanoz H. B. , Taşseven Ç.  
ACTA PHYSICA POLONICA A, vol.113, pp.1659-1670, 2008 (Journal Indexed in SCI)

## Articles Published in Other Journals

- **Thermophysical Properties of Anti-Parallel  $\beta$ -Sheets with Bombyx mori Silk Nanostructures [Gly-Ser-Gly-Ala-Gly-Ala]<sub>n</sub> and [Gly-Ala]<sub>n</sub>**  
Aksakal B., Günay S. D. , Akdere Ü., Çağın T., Taşseven Ç.  
materials science forum, vol.856, pp.70-73, 2016 (Refereed Journals of Other Institutions)

- **Thermomechanical properties of anti-parallel  $\beta$ -sheets with Bombyx mori silk nano structures [Gly-Ser-Gly-Ala-Gly-Ala]<sub>n</sub> and [Gly-Ala]<sub>n</sub>**  
Akdere Ü., Aksakal B., Günay S. D. , Taşseven Ç., Çağın T.  
Materials Science Forum, vol.851, pp.74-77, 2016 (Refereed Journals of Other Institutions)
- **The Structure and Ionic Transport of Liquid Semiconductor NiTe**  
Akdere Ü., Günay S. D. , Kavanoz H. B. , Taşseven Ç.  
Balkan Physics Letters, vol.15, pp.1-7, 2009 (Refereed Journals of Other Institutions)
- **Classical Molecular Dynamics Simulation of Mg<sub>3</sub>Bi<sub>2</sub> at Solid and Liquid Phase**  
GÜNAY S. D. , Kayadibi F., Akdere Ü., Taşseven Ç.  
Balkan Physics Letters, vol.15, pp.151013, 2009 (Refereed Journals of Other Institutions)

## Refereed Congress / Symposium Publications in Proceedings

- **THERMOPHYSICAL PROPERTIES OF NANO-CRYSTALLITE MAGNESIUM NITRIDE VIA MOLECULAR DYNAMICS SIMULATION AT CONSTANT PRESSURE**  
Aydın Y., Akdere Ü., Günay S. D. , Taşseven Ç.  
TURKISH PHYSICAL SOCIETY 35 INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 4 - 08 Eylül 2019, pp.351
- **NVE SIMULATION AND HYPERNETTED-CHAIN CALCULATION OF THE SUPERIONIC CONDUCTOR LITHIUM NITRIDE**  
Akdere Ü., Günay S. D.  
TURKISH PHYSICAL SOCIETY 35 INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 4 - 08 Eylül 2019, pp.207
- **INTERACTION POTENTIAL AND LOCAL STRUCTURE OF LIQUID MAGNESIUM NITRIDE VIA HYPERNETTED-CHAIN THEORY**  
Aydın Y., Akdere Ü., Günay S. D. , Taşseven Ç.  
TURKISH PHYSICAL SOCIETY 35 INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 4 - 08 Eylül 2019, pp.342
- **Static Structure and Ionic Diffusion of Liquid Magnesium Nitrate**  
AKDERE Ü., Aydın Y., GÜNAY S. D. , TAŞSEVEN Ç.  
ICSEEC: SUSTAINABLE ENERGY AND ENERGY CALCULATIONS, Muğla, Turkey, 12 Nisan 2019, pp.49
- **Simulation of Pullout Test on Crystallite Segment of Antiparallel beta-Sheets of Bombyx Mori Silk Fibroin**  
Uğuz C., AKDERE Ü., GÜNAY S. D. , TAŞSEVEN Ç.  
ICSEEC: SUSTAINABLE ENERGY AND ENERGY CALCULATIONS, Muğla, Turkey, 12 Nisan 2019, pp.17
- **Hydrogen Bond Analysis of Bombyx Mori Silk Fibroin by MD Simulation at Room Temperature**  
Akdere Ü., Günay S. D. , Taşseven Ç.  
Turkish Physical Society 34 International Physics Congress, Muğla, Turkey, 5 - 09 Eylül 2018, pp.474
- **Simulations of Mechanical Properties of Crystalline Units of Bombyx Mori Silkworm Silk**  
Akdere Ü., Uğuz C.  
Turkish Physical Society 34 International Physics Congress, Muğla, Turkey, 5 - 09 Eylül 2018, pp.297
- **Hydrogen Bond Analysis of Bombyx Mori Silk Fibroin by MD Simulation at Room Temperature**  
AKDERE Ü., GÜNAY S. D. , TAŞSEVEN Ç.  
Turkish Physical Society 34rd International Physics Congress, 5 - 09 Eylül 2018
- **Structural phase transition of Mg<sub>3</sub>As<sub>2</sub>**  
AKDERE Ü., GÜNAY S. D. , TAŞSEVEN Ç.  
Turkish Physical Society 33rd International Physics Congress, Muğla, Turkey, 6 - 10 Eylül 2017
- **Temperature dependence of mechanical properties of anti-parallel beta sheets with bombyx-mori silk nano structures along chain direction**  
AKDERE Ü., GÜNAY S. D. , AKSAKAL B., Çağın T., TAŞSEVEN Ç.  
Turkish Physical Society 33rd International Physics Congress, Muğla, Turkey, 6 - 10 Eylül 2017
- **Polar/Antipolar - Antiparallel beta sheets of bombyx mori silk nano crystallites solvated in different type of water**  
Uğuz C., TAŞSEVEN Ç., GÜNAY S. D. , AKDERE Ü.

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- **Low- and high- temperature structural analysis of magnesium antimonide**  
GÜNAY S. D. , AKDERE Ü., TAŞSEVEN Ç.  
1st International Conference on Energy and Thermal Engineering, ICTE 2017, İstanbul, Turkey, 25 - 28 Nisan 2017
- **Analysis of Mechanical Behavior of Anti Parallel Beta Sheets with Bombyx Mori Silk Nano Structures Along Inter Sheet Direction**  
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Turkish Physical Society 32th International Physics Conference, 6 - 09 Eylül 2016
- **Thermomechanical properties of anti parallel sheets with Bombyx mori silk nano structures Gly Ser Gly Ala Gly Ala n and Gly Ala n**  
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The Ninth Japanese -Mediterranean Workshop On Applied Electromagnetic Engineering For Magnetic, Superconducting, Multifunctional And Nanomaterials (JAPMED'9), Sofija, Bulgaria, 5 - 08 Temmuz 2015, pp.51-52
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The Ninth Japanese -Mediterranean Workshop On Applied Electromagnetic Engineering For Magnetic, Superconducting, Multifunctional And Nanomaterials (JAPMED'9), Sofija, Bulgaria, 5 - 08 Temmuz 2015, pp.25-26
- **Thermophysical Properties of alpha-Pu2O3: A New Potential Model**  
GÜNAY Ş., AKGENÇ B., AKDERE Ü., TAŞSEVEN Ç.  
3rd International Congress on Advances in Applied Physics and Materials Science, Antalya, Turkey, 24 - 28 Nisan 2013, vol.1569, pp.208-211
- **NPT simulation and hypernetted-chain calculations of SrCl 2**  
Akgenç B., AKDERE Ü., GÜNAY Ş., TAŞSEVEN Ç.  
3rd International Advances in Applied Physics and Materials Science Congress, APMAS 2013, Antalya, Turkey, 24 - 28 Nisan 2013, vol.1569, pp.15-18
- **Thermophysical Properties of AgBr and AgCl from Molecular Dynamics Simulation**  
Akdere Ü., Günay S. D. , Taşseven Ç.  
Turkish Physical Society 29 International Physics Congress, Muğla, Turkey, 5 - 08 Eylül 2012, pp.524
- **Liquid State Theory of Plutonium Dioxide: Hypernetted Chain Approximation**  
Akdere Ü., Akgenç B., Taşseven Ç., Günay S. D.  
Turkish Physical Society 29 International Physics Congress, Muğla, Turkey, 5 - 08 Eylül 2012, pp.628
- **A Study of Low Temperature Thermal Expansion and Structural Behaviour of Stromeyerite AgCuS**  
Akdere Ü., Öztekin H. Ö. , Yılmaz M., Kavanoz H. B.  
Turkish Physical Society 29 International Physics Congress, Muğla, Turkey, 5 - 08 Eylül 2012, pp.655
- **Temperature Dependence of Ionic Diffusion of Thorium Dioxide**  
Akdere Ü., Akgenç B., Günay S. D. , Taşseven Ç.  
Turkish Physical Society 29 International Physics Congress, Muğla, Turkey, 5 - 08 Eylül 2012, pp.156
- **Studying Superionic Phase Transition of Plutonium Dioxide From Molecular Dynamics Simulation**  
Akdere Ü., Günay S. D. , Akgenç B., Taşseven Ç.  
Turkish Physical Society 29 International Physics Congress, Muğla, Turkey, 5 - 08 Eylül 2012, pp.578
- **Thermophysical Properties of Liquid Thallium Halides (TlBr, TlCl, TlI) from Hypernetted Chain Theory**  
Akdere Ü., Yılmaz M., Kavanoz H. B. , Öztekin H. Ö.  
Turkish Physical Society 28 International Physics Congress, Muğla, Turkey, 6 - 09 Eylül 2011, pp.825
- **Hypernetted Chain Theory of Liquid GeO2: Preliminary Results**  
Akdere Ü., Günay S. D. , Taşseven Ç.  
Turkish Physical Society 28 International Physics Congress, Muğla, Turkey, 6 - 09 Eylül 2011, pp.648
- **HNC Calculations of Thermodynamic Properties of Molten AgI**  
Günay S. D. , Çalışkan M., Akdere Ü., Taşseven Ç.  
Turkish Physical Society 28th International Physics Conference, 6 - 09 Eylül 2011
- **Molecular dynamics simulation of thermal properties of Ag3SI**

Öztek H., KAVANOZ H. B. , AKDERE Ü., YILMAZ M., Taşseven Ç.

7th International Conference of the Balkan Physical Union, Alexandroupoli, Greece, 9 - 13 Eylül 2009, vol.1203, pp.252-254

• **Classical Molecular Dynamics Simulation of Mg<sub>3</sub>Bi<sub>2</sub> at Solid and Liquid Phase**

Akdere Ü., Kayadibi F., Günay S. D. , Taşseven Ç.

Turkish Physical Society 25th International Physics Congress, Muğla, Turkey, 25 - 29 Ağustos 2008, pp.176

• **Static Structure and Ionic Transport in Molten NiTe and NiTe<sub>2</sub>**

GÜNAY S. D. , Akdere Ü., Taşseven Ç.

Turkish Physical Society 25th International Physics Conference, 25 - 29 Ağustos 2008

• **The structure and transport properties of  $\beta$ -Mg<sub>3</sub>Bi<sub>2</sub> in superionic conduction and molten phase**

AKDERE Ü., GÜNAY Ş.

6TH International Conference of the Balkan Physical Union, İstanbul, Turkey, 22 Ağustos 2006 - 26 Ağustos 2007, vol.899, pp.577

• **Transport properties of uranium dioxide by molecular dynamics simulation**

Gunay S. D. , Akdere U., Kavanoz B., Taşseven Ç.

International Conference on Computational Methods in Science and Engineering, Corfu, Greece, 25 - 30 Eylül 2007, vol.2, pp.1212-1215

• **The Static Structure of Liquid Semiconductors NiTe and NiTe<sub>2</sub> Preliminary Results**

GÜNAY S. D. , AKDERE Ü., KOSAVALI F., TAŞSEVEN Ç.

AIP Conference Proceedings, 22 - 26 Ağustos 2006, vol.899, pp.616

• **Equilibrium Molecular Dynamics Calculations of The Transport Properties of Molten Thallium Halides**

GÜNAY S. D. , AKDERE Ü., KOSAVALI F., TAŞSEVEN Ç.

AIP Conference Proceedings, 22 - 26 Ağustos 2006, vol.899, pp.605

• **Hypernetted Chain Theory and Molecular Dynamic Simulation of Static Structure and Ionic Transport in Molten UO<sub>2</sub> and UCl<sub>3</sub>**

Günay S. D. , Akdere Ü., Kavanoz H. B. , Yılmaz M., Taşseven Ç.

Turkish Physical Society 23th Conference, 13 - 16 Eylül 2005

• **Static Criteria for Freezing of Liquid Halide Salts**

Akdere Ü., Yılmaz M., Kavanoz H. B. , Taşseven Ç.

Turkish Physical Society 23 International Physics Congress, Muğla, Turkey, 13 - 16 Eylül 2005, pp.641

• **The Static and Thermodynamic Properties of Molten UO<sub>2</sub> and UCl<sub>3</sub> (Preliminary Results)**

Akdere Ü., Taşseven Ç., Kavanoz H. B.

The Fifth International Conference on Chemical Physics, İstanbul, Turkey, 31 Ekim - 01 Kasım 2002, pp.1-2

## Supported Projects

Akdere Ü., TUBITAK Project, Thermo-mechanical Properties of Silk Fibroin Fibers from Molecular Dynamics Simulation for High Performance Applications, 2016 - 2018

Akdere Ü., Taşseven Ç., Project Supported by Higher Education Institutions, Süperiyonik İletkenlerin Yüksek Sıcaklık Davranışları, 2003 - 2007

## Citations

Total Citations (WOS):11

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