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Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: A-7414-2016

ScopusID: 6601983886

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Education Information

Doctorate, Open University, Faculty Of Technology, Materials Science, United Kingdom 1986 - 1989

Postgraduate, Middle East Technical University, Fen Bilimleri Enstitüsü, Metalurji Ve Malzeme Mühendisliği, Turkey 1983 - 1986

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, Turkey 1978 - 1983

Research Areas

Metallurgical and Materials Engineering, Material science and engineering, Intermetallics, Physical Metallurgy, Metallic Materials, Nanomaterials, Engineering and Technology

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 2001 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 1996 - 2001

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 1990 - 1996

Lecturer PhD, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 1989 - 1990

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 1984 - 1986

Academic and Administrative Experience

Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 2019 - Continues

Courses

Science and Engineering in Materials - II, Doctorate, 2020 - 2021, 2019 - 2020
FUNDAMENTALS OF MATERIALS SCIENCE AND ENGINEERING , Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
MATERIALS ENGINEERING DESIGN II, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
MATERIALS SCIENCE II, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
Characterization of Materials, Postgraduate, 2020 - 2021, 2019 - 2020
MATERIALS SCIENCE I, Undergraduate, 2020 - 2021, 2019 - 2020, 2018 - 2019, 2017 - 2018
Science and Engineering in Materials - I, Doctorate, 2020 - 2021, 2019 - 2020
WELDING METALLURGY, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018

Advising Theses

Akdeniz M. V., Mehrabov A., SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF MULTIFUNCTIONAL TI ALLOY: GUM METAL, Postgraduate, O.ELÇİN(Student), 2020
Mehrabov A., Akdeniz M. V., SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF BULK AND NANOALLOYS OF Ni-B BINARY SYSTEMS, Postgraduate, H.SEÇKİN(Student), 2019
Akdeniz M. V., Mehrabov A., Alloy design for the development and production of titanium based bulk metallic glasses, Postgraduate, I.BEGÜM(Student), 2019
Akdeniz M. V., Demirköz M. B., RADIATION DAMAGE STUDIES OF BULK METALLIC GLASS MATERIALS UNDER PROTON IRRADIATION AND RADIOPROTECTION STUDIES FOR METU-DBL, Postgraduate, P.USLU(Student), 2019
Mehrabov A., Akdeniz M. V., SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF Co-Al BASED SUPERALLOYS, Postgraduate, A.FIRAT(Student), 2019
Mehrabov A., Akdeniz M. V., Design and development of Ni-based heusler alloys for magnetic refrigeration, Postgraduate, S.TORAMAN(Student), 2018
Mehrabov A., Akdeniz M. V., Modelling, simulation, synthesis and structural characterization of Ni-Fe based nanoalloys, Postgraduate, E.ARSLAN(Student), 2018
Akdeniz M. V., Mehrabov A., Bulk amorphous steel as a coating material: Hardfacing application, Postgraduate, H.ÇAKMAK(Student), 2018
Kalay Y. E., Akdeniz M. V., Development of rare-earth free permanent magnets, Doctorate, A.MERVE(Student), 2017
Akdeniz M. V., Mehrabov A., Design and development of high temperature nickel-based superalloys, Postgraduate, R.ERİŞ(Student), 2017
Akdeniz M. V., Mehrabov A., Synthesis and characterization of bulk amorphous/nanocrystalline soft magnetic materials, Postgraduate, M.MERVE(Student), 2016
AKDENİZ M. V., Akdeniz M., Bulk amorphous/nanocrystalline materials: structural amorphous steels / , Postgraduate, B.Yağmurlu(Student), 2014
Akdeniz M. V., Mehrabov A., Bulk amorphous/nanocrystalline materials: Structural amorphous steels, Postgraduate, B.YAĞMURLU(Student), 2014
Akdeniz M. V., Mehrabov A., Design and development of iron aluminium intermetallic compounds for structural applications at high temperatures, Doctorate, M.YILDIRIM(Student), 2014
Akdeniz M. V., Mehrabov A., Synthesis and characterization of copper based bulk amorphous alloys, Postgraduate, E.MERMER(Student), 2013
Akdeniz M. V., Mehrabov A., Phase Transformations and Magnetic Properties of Heusler-type Multicomponent Alloys, Postgraduate, M.KALKANCI(Student), 2011
AKDENİZ M. V., MEHRABOV A., Nano-scale phase separation and glass forming ability of iron-boron based metallic glasses, Postgraduate, M.AYKOL(Student), 2008
AKDENİZ M. V., MEHRABOV A., Theoretical and experimental investigations on atomic and magnetic ordering in full heusler alloys, Postgraduate, C.TOPBAŞI(Student), 2008
AKDENİZ M. V., Investigations on bulk glass forming ability of titanium based multicomponent alloys, Postgraduate,

S.ÜER(Student), 2008

AKDENİZ M. V., Solidification and crystallization of bulk glass forming alloys, Postgraduate, S.AYBAR(Student), 2007

AKDENİZ M. V., Solidification and crystallization behaviour of bulk glass forming alloys, Postgraduate, S.Aybar(Student), 2007

Akdeniz M. V., Mehrabov A., Theoretical and experimental investigation of bulk glass forming ability in bulk amorphous alloy systems, Postgraduate, C.AYAS(Student), 2005

AKDENİZ M. V., Synthesis and characterization of nickel based bulk amorphous alloys, Postgraduate, H.ARSLAN(Student), 2004

AKDENİZ M. V., Synthesis and characterization of bulk glass-forming iron-boron based alloy systems, Postgraduate, S.NİMET(Student), 2004

AKDENİZ M. V., Synthesis and characterization of zirconium based bulk amorphous alloys, Postgraduate, İ.SALTOĞLU(Student), 2004

AKDENİZ M. V., Investigation of solidification and crystallization of iron based bulk amorphous alloys, Postgraduate, E.SALİM(Student), 2004

AKDENİZ M. V., Synthesis and characterization of Ti-based bulk amorphous/nanocrystalline alloys for engineering applications, Postgraduate, A.Abdelal(Student), 2004

AKDENİZ M. V., Synthesis and characterization of Ti-based bulk amorphous/nano-crystalline alloys for engineering applications, Postgraduate, A.ABDELAL(Student), 2004

AKDENİZ M. V., Production and development of bulk metallic glasses, Doctorate, K.PEHLİVANOĞLU(Student), 2003

AKDENİZ M. V., Structural characterization of magnesium-nickel-X hydrogen storage alloys, Postgraduate, E.AKŞİT(Student), 2003

AKDENİZ M. V., Synthesis and characterization of non-ferrous based bulk amorphous metallic alloys, Postgraduate, H.MERİH(Student), 2001

AYDINOL M. K., AKDENİZ M. V., Prediction of glass forming ability in TM-based binary alloys, Postgraduate, H.BURCU(Student), 2001

AYDINOL M. K., AKDENİZ M. V., Prediction of glass forming ability in Zr based binary alloys, Postgraduate, B.DİLSİZOĞLU(Student), 2001

AKDENİZ M. V., Temper embrittlement behaviour of steel costing for welded structures, Postgraduate, A.ERTAN(Student), 1999

AKDENİZ M. V., Development of Fe-Al based alloys as reinforcement in Al-matrix composites, Postgraduate, F.AĞDAŞ(Student), 1997

AKDENİZ M. V., Monte carlo study of Fe₃Al based intermetallics, Postgraduate, M.MURAT(Student), 1996

Akdeniz M. V., Direct casting of iron-aluminum intermetallics, Postgraduate, Y.ÖZBAYRAMOĞLU(Student), 1995

AKDENİZ M. V., Al coating of steels, Postgraduate, T.YILMAZ(Student), 1994

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Unveiling the effect of Hf-(Mo,W) addition on the coarsening, agglomeration, and dissolution behaviour of γ' -Ni₃Al precipitates in model Ni-based superalloys**
ERİŞ R., AKDENİZ M. V., MEHRABOV A.
Journal of Alloys and Compounds, vol.936, 2023 (SCI-Expanded)
- II. **On the Optimization of the Microstructural and Mechanical Properties of Model Ni-Based Superalloys Through the Alloying Effects of Refractory Mo and W Elements**
Eriş R., Akdeniz M. V., Mekhrabov A.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, vol.153, no.5, pp.1859-1872, 2022 (SCI-Expanded)
- III. **Radiation effect studies on partially crystalline bulk amorphous Fe-based metallic glass**
Kıceci P. U., Akdeniz M. V., Demirköz M. B., Mekhrabov A.
RADIATION EFFECTS AND DEFECTS IN SOLIDS, vol.177, no.3-4, pp.294-306, 2022 (SCI-Expanded)
- IV. **Effect of Y Addition on the Structural Properties and Oxidation Behavior of Fe₆₀Al₄₀-nYn Alloys**

(n=1, 3, and 5 at.%)

Yildirim M., Atas M. S., Akdeniz M. V., Mekhrabov A.

MATERIALS AT HIGH TEMPERATURES, vol.39, no.3, pp.220-230, 2022 (SCI-Expanded)

- V. **The Site Preferences of Transition Elements and Their Synergistic Effects on the Bonding Strengthening and Structural Stability of γ' -Ni₃Al Precipitates in Ni-Based Superalloys: A First-Principles Investigation**
Eriş R., Akdeniz M. V., Mekhrabov A.
Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, vol.52, no.6, pp.2298-2313, 2021 (SCI-Expanded)
- VI. **Microstructure, phase relationships and microhardness of Fe₆₀Al₄₀-nHf_n alloys (n=1, 3, and 5 at.%)**
Yildirim M., Cetinbakis N., Culu A., Akdeniz M. V., Mekhrabov A.
INTERNATIONAL JOURNAL OF MATERIALS RESEARCH, vol.112, no.4, pp.280-287, 2021 (SCI-Expanded)
- VII. **Size dependent stability and surface energy of amorphous FePt nanoalloy**
Akdeniz M. V., Mekhrabov A.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.788, pp.787-798, 2019 (SCI-Expanded)
- VIII. **Atomic size effect of alloying elements on the formation, evolution and strengthening of gamma'-Ni₃Al precipitates in Ni-based superalloys**
Eriş R., Akdeniz M. V., Mekhrabov A.
INTERMETALLICS, vol.109, pp.37-47, 2019 (SCI-Expanded)
- IX. **Effect of Mo addition on microstructure, ordering, and room-temperature mechanical properties of Fe-50Al**
Yildirim M., Akdeniz M. V., Mekhrabov A.
TRANSACTIONS OF NONFERROUS METALS SOCIETY OF CHINA, vol.28, pp.1970-1979, 2018 (SCI-Expanded)
- X. **High-temperature site preference and atomic short-range ordering characteristics of ternary alloying elements in gamma'-Ni₃Al intermetallics**
Eris R., Mekhrabov A., Akdeniz M. V.
PHILOSOPHICAL MAGAZINE, vol.97, pp.2615-2631, 2017 (SCI-Expanded)
- XI. **Synthesis of AlNiCo core/shell nanopowders**
Genc A. M., Akdeniz M. V., Öztürk T., Kalay Y. E.
JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, vol.417, pp.112-116, 2016 (SCI-Expanded)
- XII. **Microstructural evolution and room-temperature mechanical properties of as-cast and heat-treated Fe₅₀Al₅₀-nNbn alloys (n=1, 3, 5, 7, and 9 at%)**
Yıldırım M., Akdeniz M. V., Mekhrabov A.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND PROCESSING, vol.664, pp.17-25, 2016 (SCI-Expanded)
- XIII. **Microstructural Investigation and Phase Relationships of Fe-Al-Hf Alloys**
Yıldırım M., Akdeniz M. V., Mekhrabov A.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, pp.3412-3421, 2014 (SCI-Expanded)
- XIV. **Effects of Nanoparticle Geometry and Temperature on the Structural Evolution in FeCo Nanoalloys**
Yalçın M., Mekhrabov A., Akdeniz M. V.
ACTA PHYSICA POLONICA A, vol.125, pp.600-602, 2014 (SCI-Expanded)
- XV. **Synthesis and Characterization of Fe₈₀B₂₀ Nanoalloys Produced by Surfactant Assisted Ball Milling**
Fadae A., Akdeniz M. V., Mekhrabov A.
ACTA PHYSICA POLONICA A, vol.125, pp.597-599, 2014 (SCI-Expanded)
- XVI. **Magnetic monitoring approach to nanocrystallization kinetics in Fe-based bulk amorphous alloy**
Duman N., Akdeniz M. V., Mekhrabov A.
INTERMETALLICS, vol.43, pp.152-161, 2013 (SCI-Expanded)
- XVII. **Glass Forming Ability and Magnetic Properties of Fe₃₆Ni₃₆B_{19.2}Si_{4.8}Nb_{4-x}M_x (M = Cu, Zr, Ti, Y, Pt) Bulk Glassy Alloys Fabricated by Suction Casting**

- Kirimli H. E., Sarlar K., Konuk A. O., DUMAN N., AKDENİZ M. V., Kucuk I.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.26, no.5, pp.1683-1685, 2013 (SCI-Expanded)
- XVIII. **Effect of Ternary Alloying Elements Addition on the Order-Disorder Transformation Temperatures of B2-Type Ordered Fe-Al-X Intermetallics**
Yıldırım M., Akdeniz M. V., Mekhrabov A.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, pp.1809-1816, 2012 (SCI-Expanded)
- XIX. **Microalloying effects on the microstructure and kinetics of nanoscale precipitation in Ni-Al-Fe alloy**
Duman N., Mekhrabov A., Akdeniz M. V.
INTERMETALLICS, vol.23, pp.217-227, 2012 (SCI-Expanded)
- XX. **Effect of Thickness on Magnetic Properties of Fe₃₆Co₃₆B_{19.2}Si_{4.8}Mo₂W₂ Thin Film Prepared by Thermionic Vacuum Arc**
Perincek F., Erturk K., AYKOL M., Kucuk I., AKDENİZ M. V.
ACTA PHYSICA POLONICA A, vol.121, no.1, pp.147-148, 2012 (SCI-Expanded)
- XXI. **Solidification behavior, glass forming ability and thermal characteristics of soft magnetic Fe-Co-B-Si-Nb-Cu bulk amorphous alloys**
AYKOL M., AKDENİZ M. V., MEKHRABOV A.
INTERMETALLICS, vol.19, no.9, pp.1330-1337, 2011 (SCI-Expanded)
- XXII. **Kinetics of nanoscale precipitation in Ni-Fe-Al alloys: A magnetic monitoring approach**
DUMAN N., MEKHRABOV A., Akdeniz M. V.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.509, no.24, pp.6781-6786, 2011 (SCI-Expanded)
- XXIII. **Microstructural and magnetic characterization of iron precipitation in Ni-Fe-Al alloys**
DUMAN N., MEKHRABOV A., AKDENİZ M. V.
MATERIALS CHARACTERIZATION, vol.62, no.6, pp.606-614, 2011 (SCI-Expanded)
- XXIV. **Effect of (Mo, W) substitution for Nb on glass forming ability and magnetic properties of Fe-Co-based bulk amorphous alloys fabricated by centrifugal casting**
Kucuk I., Aykol M., Uzun O., Yıldırım M., Kabaer M., Duman N., Yilmaz F., Erturk K., Akdeniz M. V., Mekhrabov A.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.509, pp.2334-2337, 2011 (SCI-Expanded)
- XXV. **A generalized polytetrahedral cluster approach to partial coordination numbers in binary metallic glasses**
AYKOL M., MEKHRABOV A., AKDENİZ M. V.
PHILOSOPHICAL MAGAZINE, vol.91, no.22, pp.2985-3005, 2011 (SCI-Expanded)
- XXVI. **Effect of vanadium on atomic ordering characteristics and anti-phase boundary energies of B2-FeCo alloys**
AYKOL M., MEKHRABOV A., AKDENİZ M. V.
INTERMETALLICS, vol.18, no.5, pp.893-899, 2010 (SCI-Expanded)
- XXVII. **Site Selection and Pseudo-Clustering Behaviors of Alloying Elements in Aluminum-Lean gamma-TiAl Intermetallics**
AYKOL M., MEKHRABOV A., AKDENİZ M. V.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, no.2, pp.267-274, 2010 (SCI-Expanded)
- XXVIII. **Theoretical prediction of bulk glass forming ability (BGFA) of Ti-Cu based multicomponent alloys**
SUER S., MEKHRABOV A., AKDENİZ M. V.
JOURNAL OF NON-CRYSTALLINE SOLIDS, vol.355, no.6, pp.373-378, 2009 (SCI-Expanded)
- XXIX. **Nano-scale phase separation in amorphous Fe-B alloys: Atomic and cluster ordering**
AYKOL M., MEKHRABOV A., AKDENİZ M. V.
ACTA MATERIALIA, vol.57, no.1, pp.171-181, 2009 (SCI-Expanded)
- XXX. **Solidification microstructures and carbides morphology in rapidly solidified Fe-Al-Cr-C alloys**
AKDENİZ M. V., MEKHRABOV A.
METALS AND MATERIALS INTERNATIONAL, vol.14, no.4, pp.397-402, 2008 (SCI-Expanded)
- XXXI. **Impurity-driven nanocrystallization of Zr-based bulk amorphous alloys**

- AKDENİZ M. V., MEKHRABOV A.
JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY, vol.8, no.2, pp.894-900, 2008 (SCI-Expanded)
- XXXII. **Modelling and Monte Carlo simulation of the atomic ordering processes in Ni3Al intermetallics**
MEKHRABOV A., Akdeniz M. V.
MODELLING AND SIMULATION IN MATERIALS SCIENCE AND ENGINEERING, vol.15, no.2, pp.1-12, 2007 (SCI-Expanded)
- XXXIII. **Solidification behaviour of bulk glass-forming alloy systems**
Akdeniz M. V., MEKHRABOV A., PEHLIVANOGLU M.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.386, pp.185-191, 2005 (SCI-Expanded)
- XXXIV. **Modeling of the atomic ordering processes in Fe3Al intermetallics by the Monte Carlo simulation method combined with electronic theory of alloys**
Mekhrabov A., AKDENİZ M. V.
Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, vol.34, no.13, pp.721-734, 2003 (SCI-Expanded)
- XXXV. **Modeling the kinetics of atomic ordering in high temperature intermetallics**
MEKHRABOV A., Akdeniz M. V.
CHEMICAL ENGINEERING COMMUNICATIONS, vol.190, pp.898-910, 2003 (SCI-Expanded)
- XXXVI. **Structural characterization of iron-based bulk metallic glass alloys produced by centrifugal casting**
PEHLIVANOGLU M., Akdeniz M. V., BOR A. S.
CHEMICAL ENGINEERING COMMUNICATIONS, vol.190, pp.925-935, 2003 (SCI-Expanded)
- XXXVII. **Modeling of the atomic ordering processes in Fe3Al intermetallics by the Monte Carlo simulation method combined with electronic theory of alloys**
MEKHRABOV A., Akdeniz M. V.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, no.3, pp.721-734, 2003 (SCI-Expanded)
- XXXVIII. **Effect of ternary alloying elements addition on atomic ordering characteristics of Fe-Al intermetallics**
MEKHRABOV A., Akdeniz M. V.
ACTA MATERIALIA, vol.47, no.7, pp.2067-2075, 1999 (SCI-Expanded)
- XXXIX. **The effect of substitutional impurities on the evolution of Fe-Al diffusion layer**
Akdeniz M. V., MEKHRABOV A.
ACTA MATERIALIA, vol.46, no.4, pp.1185-1192, 1998 (SCI-Expanded)
- XL. **Atomic ordering characteristics of Ni3Al intermetallics with substitutional ternary additions**
MEKHRABOV A., Akdeniz M. V., ARER M. M.
ACTA MATERIALIA, vol.45, no.3, pp.1077-1083, 1997 (SCI-Expanded)
- XLI. **Microstructures and phase selection in rapidly solidified Zn-Mg alloys**
Akdeniz M. V., WOOD J.
JOURNAL OF MATERIALS SCIENCE, vol.31, no.2, pp.545-550, 1996 (SCI-Expanded)
- XLII. **EFFECT OF MELT SUPERHEAT ON THE GEOMETRY OF MELT-SPUN PURE ZINC RIBBON**
AKDENİZ M. V., WOOD J.
SCRIPTA METALLURGICA ET MATERIALIA, vol.32, no.9, pp.1471-1475, 1995 (SCI-Expanded)
- XLIII. **THE ROLE OF SI ADDITION ON THE INTERFACIAL INTERACTION IN FE-AL DIFFUSION LAYER**
Akdeniz M., Mekhrabov A., Yilmaz T.
SCRIPTA METALLURGICA ET MATERIALIA, vol.31, pp.1723-1728, 1994 (SCI-Expanded)
- XLIV. **STRUCTURES IN RAPIDLY SOLIDIFIED ZINC**
AKDENİZ M. V., REID C., WOOD J.
MATERIALS SCIENCE AND ENGINEERING, vol.98, pp.321-323, 1988 (SCI-Expanded)

Articles Published in Other Journals

- I. **DESIGN AND DEVELOPMENT OF HEUSLER ALLOYS FOR MAGNETIC REFRIGERATION APPLICATIONS**
Mekhrabov A., Akdeniz M. V.
Modern Trends in Physics-Series, vol.1, no.1, pp.9-15, 2019 (Conference Book)
- II. **EFFECT OF Ti ADDITION ON CYCLIC OXIDATION BEHAVIOR OF FeAl INTERMETALLICS**
Yıldırım M., Akdeniz M. V., Mekhrabov A.
Journal of Corrosion, vol.23, pp.4-11, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **Microstructural Examination of Mn Alloyed Fe-Al Based Intermetallics**
AKDENİZ M. V., MEKHRABOV A. O., Ağdaş F.
in: Intermetallics and superalloys. EUROMAT 99. Vol. 10, Morris D.G., Naka S and Caron P, Editor, Wiley-Vch, Weinheim, pp.228-233, 2000
- II. **Microstructural Examination of Mn Alloyed Fe-Al Based Intermetallics**
Akdeniz M. V., Mehrabov A., Ağdaş F.
in: Intermetallics and Superalloys, Morris D. G., Naka S and Caron P, Editor, John Wiley & Sons, West Sussex, UK , New-York, pp.228-233, 2000
- III. **The Effect of Alloying Additions on the Interfacial Interactions at the Fe-Al Interface During Coating**
Mekhrabov A., Akdeniz M. V., Aktürk İ.
in: Stability of Materials, NATO Advanced Study Institutes (ASI), A. Gonis, P. E. A. Turchi, J. Kudrnousky, Editor, Plenum Press, New-York, pp.681-686, 1996
- IV. **THE EFFECTS OF IMPURITY ELEMENTS ON THE PREFERRED ORIENTATION DURING MELT-SPINNING OF DILUTE ZN ALLOYS**
AKDENİZ M. V., WOOD J. V.
in: Textures of Materials - ICOTOM 10, Bunge H.J., Editor, TRANSTEC PUBLICATIONS LTD, Zürich, pp.1351-1356, 1994

Refereed Congress / Symposium Publications in Proceedings

- I. **Modeling and Simulation of Structure-Property Relations in Fe-based Nanoalloys via Computational Materials Science**
Mekhrabov A., Irmak E. A., Akdeniz M. V.
7-th International Conference MTP-2021: Modern Trends in Physics, Baku, Azerbaijan, 15 - 17 December 2021, vol.1, pp.7-14
- II. **The Site and Phase Preferences of Mo Element in a Model Ni-Al-Mo Superalloy**
Eriş R., Akdeniz M. V., Mekhrabov A.
20th International Metallurgy & Materials Congress, 10 - 12 June 2021, pp.483
- III. **Microstructural Evolution of γ' -Ni₃Al Precipitates Affecting Mechanical Properties of Nickel-based Superalloys**
Eriş R., Akdeniz M. V., Mekhrabov A.
TMS 2020 Annual Meeting & Exhibition, California, United States Of America, 23 - 27 February 2020, pp.324
- IV. **Radiation Damage Studies for Fe-Based Alloys Under 30 MeV Proton Irradiation**
Uslu P., Akdeniz M. V., Mekhrabov A., Demirköz M. B.
Materials In Nuclear Energy Systems (MiNES 2019), Maryland, United States Of America, 6 - 10 October 2019
- V. **Design and Development of Heusler Alloys for Magnetic Refrigeration Applications**
Mekhrabov A., Akdeniz M. V.
Modern Trends in Physics, Baku, Azerbaijan, 1 - 03 May 2019, pp.49-50
- VI. **Design and Development of Heusler Alloys for Magnetic Refrigeration Applications**
Mekhrabov A., Akdeniz M. V.

Modern Trends in Physics-MTP-2019, Baku, Azerbaijan, 1 - 03 May 2019, pp.9-15

VII. **DESIGN AND DEVELOPMENT OF HEUSLER ALLOYS FOR MAGNETIC REFRIGERATION APPLICATIONS**

Mekhrabov A., AKDENİZ M. V.

International Conference on Modern Trends in Physics, Baku, Azerbaijan, 1 - 03 May 2019, pp.9-15

VIII. **Manyetik Soğutucular İçin Ni-Tabanlı Heusler Alaşımlarının Tasarlanması ve Geliştirilmesi**

Toraman S., Mekhrabov A., Akdeniz M. V.

24. Yoğun Madde Fiziği – Ankara Toplantısı, Ankara, Turkey, 21 December 2018, pp.55

IX. **Alloy Design for the Development and Production of Titanium Based Bulk Metallic Glasses**

Demir I. B., Mekhrabov A. O., Akdeniz M. V.

IMMC2018-19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 - 27 October 2018, pp.307-310

X. **Synthesis and Structural Characterization of Co-Al Binary Alloys**

DİNLER A. F., MEKHRABOV A. O., AKDENİZ M. V.

IMMC2018-19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 - 27 October 2018, pp.140-143

XI. **Synthesis and Structural Characterization of Multifunctional Ti Alloy: Gum Metal**

Elçin O., Mekhrabov A. O., Akdeniz M. V.

IMMC2018-19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 - 27 October 2018, pp.322-325

XII. **Synthesis and Structural Characterization of Bulk and Nanoalloys of Ni-B Binary Systems**

Tekekaya H. S., Mekhrabov A. O., Akdeniz M. V.

IMMC2018-19th International Metallurgy and Materials Congress, İstanbul, Turkey, 25 - 27 October 2018, pp.594-597

XIII. **Synthesis and Structural Characterization of Co-Al Binary Alloys**

Mekhrabov A., Akdeniz M. V., Dinler A. F.

19th International Metallurgy and Materials Congress (IMMC 2018), İstanbul, Turkey, 25 - 27 October 2018, pp.140-143

XIV. **Alloy Design for the Development and Production of Titanium Based Bulk Metallic Glasses**

Mekhrabov A., Akdeniz M. V., Demir I. B.

19th International Metallurgy and Materials Congress (IMMC 2018), İstanbul, Turkey, 25 - 27 October 2018, pp.307-310

XV. **Synthesis and Structural Characterization of Bulk and Nanoalloys of Ni-B Binary Systems**

Mekhrabov A., Akdeniz M. V., Tekekaya H. S.

19th International Metallurgy and Materials Congress (IMMC 2018), İstanbul, Turkey, 25 - 27 October 2018, pp.598-601

XVI. **Synthesis and Structural Characterization of Multifunctional Ti Alloy: Gum Metal**

Mekhrabov A., Akdeniz M. V., Elçin O.

19th International Metallurgy and Materials Congress (IMMC 2018), İstanbul, Turkey, 25 - 27 October 2018, pp.326-329

XVII. **Structural properties and room temperature mechanical properties of ultrafine eutectic Fe₅₀Al_{50-n}Nb_n alloys**

Yıldırım M., Akdeniz M. V., Mekhrabov A.

Intermetallics 2017, Nuremberg, Germany, 2 - 06 October 2017, pp.128-129

XVIII. **DESIGN AND DEVELOPMENT OF NOVEL MATERIALS FOR INDUSTRIAL APPLICATIONS**

Mekhrabov A., Akdeniz M. V.

INTERNATIONAL CONFERENCE "MODERN TRENDS IN PHYSICS", Baku, Azerbaijan, 20 - 22 April 2017, pp.498-507

XIX. **The Effects of Transition Metal Element Addition on the Temporal Evolution and Microstructural Characteristics of Nickel-based Superalloys**

Eriş R., Akdeniz M. V., Mekhrabov A.

TMS 2017 146th Annual Meeting and Exhibition, California, United States Of America, 26 February - 02 March 2017

- XX. **The Effects of Refractory Element Addition on the Long Term Stability and Microstructural Characteristics of Nickel-Based Superalloys:**
Eriş R., Akdeniz M. V., Mekhrabov A.
TMS 2017 146th Annual Meeting and Exhibition, California, United States Of America, 26 February - 02 March 2017
- XXI. **Synthesis of AlNiCo Core Shell Nanopowders by Hydrogen Plasma Reaction**
GENÇ A. M., AKDENİZ M. V., ÖZTÜRK T., KALAY Y. E.
MRS Fall Meeting 2016, 27 November - 02 December 2016
- XXII. **Effect Of Ti Addition On Cyclic Oxidation Behavior Of FeAl Intermetallics**
Yıldırım M., Akdeniz M. V., Mekhrabov A.
XIV. International Corrosion Symposium (KORSEM 2016), Bayburt, Turkey, 5 - 07 October 2016, pp.295-304
- XXIII. **Design and Development of Ni Based Heusler Alloys for Magnetic Refrigeration**
Toraman S., Mekhrabov A., Akdeniz M. V.
18th International Metallurgy & Materials Congress (IMMC 2016), İstanbul, Turkey, 29 September - 01 October 2016, pp.774-777
- XXIV. **Production and Structural Characterization of NiB Nanoalloy Synthesized by Ball Milling**
Mut S., Mekhrabov A., Akdeniz M. V.
18th International Metallurgy & Materials Congress (IMMC 2016), İstanbul, Turkey, 29 September - 01 October 2016, pp.309-312
- XXV. **The Effects of Cr Addition on the Atomic Ordering Properties of Ni Based Superalloys**
Eriş R., Mekhrabov A., Akdeniz M. V.
18th International Metallurgy & Materials Congress (IMMC 2016), İstanbul, Turkey, 29 September - 01 October 2016, pp.689-692
- XXVI. **Effect of Ta Addition on Structural and Room Temperature Mechanical Properties of B2 Type Ordered FeAl Intermetallics**
Yıldırım M., Akdeniz M. V., Mekhrabov A.
18th International Metallurgy & Materials Congress (IMMC 2016), İstanbul, Turkey, 29 September - 01 October 2016, pp.402-405
- XXVII. **Synthesis and Characterization of Bulk Amorphous Nanocrystalline Soft Magnetic Materials**
Karataş M., Akdeniz M. V., Mekhrabov A.
18th International Metallurgy & Materials Congress (IMMC 2016), İstanbul, Turkey, 29 September - 01 October 2016, pp.470-473
- XXVIII. **Effects of Nb Element Addition on the Short Range Order Characteristics of Nickel-Based Superalloys**
Mekhrabov A., Akdeniz M. V., Eriş R.
Modern problems of Physics of Metals, Baku, Azerbaijan, 10 - 11 June 2016, pp.48-52
- XXIX. **Development of AlNiCo Nanopowders with Improved Coercivity**
Genc M., AKDENİZ M. V., ÖZTÜRK T., KALAY Y. E.
MRS 2015 FALL, 29 November - 04 December 2015
- XXX. **The effect of alloying additions on the interfacial interactions at the Fe-Al interface during coating**
MEKHRABOV A., Akdeniz M. V., AKTURK I.
NATO Advanced Study Institute on Stability of Materials, CORFU, Greece, 25 June - 07 July 1994, vol.355, pp.681-686
- XXXI. **THE EFFECTS OF IMPURITY ELEMENTS ON THE PREFERRED ORIENTATION DURING MELT-SPINNING OF DILUTE ZN ALLOYS**
AKDENİZ M. V., WOOD J.
10th International Conference on Textures of Materials (ICOTOM-10), CLAUSTHAL ZELLERFE, Germany, 20 - 24 September 1993, pp.1351-1356

Supported Projects

AKDENİZ M. V., ÇAKMAK H., Project Supported by Higher Education Institutions, Amorf/Camsı Çeliklerin Sert Kaplama Malzemesi olarak Kullanımının Araştırılması, 2018 - 2019

AKDENİZ M. V., Project Supported by Higher Education Institutions, DÖKME DEMİR HURDASINDAN İRİ HACİMLİ CAMSI ÇELİK SENTEZİ VE ÜRETİMİ, 2017 - 2017

MEHRABOV A., ERİŞ R., AKDENİZ M. V., Project Supported by Higher Education Institutions, Yüksek Sıcaklık Ni-Al Esaslı Süperalaşımının Tasarımı ve Geliştirilmesi, 2017 - 2017

AKDENİZ M. V., Project Supported by Higher Education Institutions, Çok İşlevselli Süper Alaşım: Sakız Metal, 2017 - 2017

AKDENİZ M. V., Project Supported by Higher Education Institutions, YÜKSEK SICAKLIK SÜPER ALAŞIMLARININ TASARIMI VE GELİŞTİRİLMESİ, 2017 - 2017

MEHRABOV A., AKDENİZ M. V., Project Supported by Higher Education Institutions, Fe-Co Nanoalaşım Parçacıkların Yapısal Özelliklerinin Teorik Yöntemlerle İncelenmesi, 2015 - 2015

AKDENİZ M. V., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2014

AKDENİZ M. V., YAĞMURLU B., Project Supported by Higher Education Institutions, İRİ HACİMLİ CAMSI/NANOKRİSTAL MALZEMELER: CAMSI YAPI ÇELİKLERİ, 2013 - 2013

AKDENİZ M. V., YALÇIN M., Project Supported by Higher Education Institutions, İNTEMRETALİK VE METALİK CAM NANOALAŞIMLARIN YAPI-ÖZELLİK İLİŞKİLERİNİN MODELLENMESİ, MEKANİK NANOALAŞIMLAMA İLE ÜRETİMİ VE KARAKTERİZASYONU, 2013 - 2013

AKDENİZ M. V., Project Supported by Higher Education Institutions, İri Hacimli Camsı/Nanokristal Yapı Çeliklerinin Sentezlenmesi ve Karakterizasyonu, 2013 - 2013

Öztürk T., Akdeniz M. V., Premiership, Enerji Malzemeleri , 2009 - 2011

Mehrabov A., Akdeniz M. V., Project Supported by Higher Education Institutions, Kobalt bazlı çok bileşenli iri ve hacimli camsi/nanokristal manyetik alaşımların tasarlanıp geliştirilmesi , 2010 - 2010

Öztürk T., Akdeniz M. V., Premiership, Linyit Esaslı Termik Santrallerde Hasar Analizi Ve Malzeme İyileştirme Çalışmaları , 2007 - 2009

Akdeniz M. V., Mehrabov A., Premiership, Magnetic Refrigeration, 2006 - 2009

Akdeniz M. V., Mehrabov A., BOREN, Ulusal Bor Araştırma Enstitüsü Projesi, Development of Boron Based Bulk Metallic Glasses & Nanocrystalline Magnetic Materials for Engineering Applications, 2006 - 2008

Akdeniz M. V., Mehrabov A., TÜBİTAK - AB COST Project, Thermodynamics of Alloyed Aluminides (THALU) , 2005 - 2008

Mehrabov A., Akdeniz M. V., Project Supported by Higher Education Institutions, İri Hacimli Nano-kristal Metalik Camlarda Atomlar Arası Düzenlenmenin Monte Carlo Simulasyonu ile İncelenmesi , 2004 - 2004

Akdeniz M. V., Mehrabov A., Project Supported by Higher Education Institutions, Demir Esaslı İri ve Hacimli Metalik Cam ve Nanokristal Manyetik Malzemelerin Üretimi ve Tanımlanması , 2002 - 2004

Mehrabov A., Akdeniz M. V., Project Supported by Higher Education Institutions, Demir Bazlı Metalik Cam Malzemelerin Katılma ve Kristalleşme Davranışlarının İncelenmesi , 2002 - 2004

Mehrabov A., Akdeniz M. V., Project Supported by Higher Education Institutions, Mühendislik Uygulamaları için Titanyum Esaslı İri ve Hacimli Cam/Nanokristal Malzemelerin Üretimi ve Tanımlanması , 2002 - 2004

Akdeniz M. V., Mehrabov A., Project Supported by Higher Education Institutions, Zirkon Esaslı İri ve Hacimli Metalik Cam Malzemelerin Üretimi ve Tanımlanması , 2002 - 2004

Mehrabov A., Akdeniz M. V., Project Supported by Higher Education Institutions, Nikel Esaslı İri ve Hacimli Metalik Cam Malzemelerin Üretimi ve Tanımlanması , 2002 - 2004

Akdeniz M. V., Mehrabov A., Project Supported by Higher Education Institutions, Demir Bazlı İri ve Hacimli Metalik Cam Malzemelerin Üretimi ve Geliştirilmesi , 1999 - 2003

Akdeniz M. V., Mehrabov A., Premiership, ENDÜSTRİYEL UYGULAMALI METALİK CAM, 1998 - 2003

Akdeniz M. V., Project Supported by Higher Education Institutions, Yüksek Basınç Altında Katılma , 1992 - 1994

Scientific Refereeing

Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey,

October 2022

Project Supported by Higher Education Institutions, BAP PhD, Middle East Technical University, Turkey, September 2022

Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, February 2022

Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, June 2021

Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, December 2020

Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, November 2020

Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, September 2020

Project Supported by Higher Education Institutions, BAP PhD, Middle East Technical University, Turkey, September 2020
TUBITAK Project, 2219 - Yurt Dışı Doktora Sonrası Araştırma Burs Programı, Middle East Technical University, Turkey, June 2020

Metrics

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H-Index (Scopus): 13

Non Academic Experience

The Open University