

Prof. İSHAK KARAKAYA

Personal Information

Office Phone: [+90 312 210 2533](tel:+903122102533) Extension: 3122102533

Fax Phone: [+90 312 210 2518](tel:+903122102518)

Email: kkaya@metu.edu.tr

Web: <https://avesis.metu.edu.tr/kkaya>

Address: ODTÜ Metalurji ve Malz. Müh. Böl. Ankara

International Researcher IDs

ScholarID: Ujn08wsAAAAJ

ORCID: 0000-0002-4646-6207

Publons / Web Of Science ResearcherID: H-5826-2012

ScopusID: 6602371398

Yoksis Researcher ID: 4464

Education Information

Doctorate, McGill University, Metalurji Mühendisliği, Canada 1981 - 1985

Postgraduate, McGill University, Metalurji Mühendisliği, Canada 1979 - 1981

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, Turkey 1973 - 1978

Foreign Languages

English, C1 Advanced

Research Areas

Technical Sciences, Metallurgical and Materials Engineering, Production Metallurgy, Non-Ferrous Alloy Production, Electrolytic Coating, Electrometallurgy

Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, 1994 - Continues

Associate Professor, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, 1988 - 1994

Assistant Professor, Middle East Technical University, Faculty Of Engineering, Department Of Metallurgical And Materials Engineering, 1987 - 1988

Academic and Administrative Experience

Middle East Technical University, Faculty of Engineering, Department of Metallurgical and Materials Engineering, 2003 -

Courses

Materials Processing, Undergraduate, 2018 - 2019

Advising Theses

- KARAKAYA İ., FORMATION OF Au-Ag-Cu TERNARY ALLOYS BY ELECTROCHEMICAL DEPOSITION, Postgraduate, B.ÇAĞAN(Student), 2021
- KARAKAYA İ., Electroless deposition of oxidation resistant high temperature coatings in molten salt, Postgraduate, İ.EMRE(Student), 2021
- KARAKAYA İ., Electrochemical formation of Al-Sc alloy in molten salt, Postgraduate, Ç.Polat(Student), 2019
- KARAKAYA İ., Metallization of high density polyurethane surfaces, Postgraduate, B.Aykaç(Student), 2019
- KARAKAYA İ., Değerli Parçacık Gömülü Kompozit Atıkların Entegre Geri Dönüşümü, Postgraduate, T.GÖYNÜK(Student), 2019
- KARAKAYA İ., Electrochemical production of molybdenum refractory metal powders, Postgraduate, B.Akpınar(Student), 2019
- KARAKAYA İ., Effects of pulse parameters on surface properties of silver coatings on copper substrates, Postgraduate, C.Başaran(Student), 2019
- KARAKAYA İ., A Study on integral recycling of valuable particle embedded composite wastes, Postgraduate, T.Göynük(Student), 2019
- KARAKAYA İ., Electroformation and characterization of Al₂O₃ embedded nickel matrix composite coatings, Postgraduate, O.YILMAZ(Student), 2018
- KARAKAYA İ., Formation and characterization of electroformed cylindrical accordion geometry, Postgraduate, B.ÇETİNÖZ(Student), 2018
- KARAKAYA İ., Electrochemical production of tungsten refractory metal powders, Postgraduate, F.ÖZDEMİR(Student), 2017
- KARAKAYA İ., Cathodic Protection of Steel Components of Armoured Amphibious Vehicles in Marine Environment, Postgraduate, R.AKSU(Student), 2017
- KARAKAYA İ., Cathodic protection of aluminum components of armoured amphibious vehicles in marine environment, Postgraduate, R.ONUR(Student), 2017
- KARAKAYA İ., Computer simulation of processes involving multicomponent multiphase equilibria, Postgraduate, M.SERDAL(Student), 2016
- KARAKAYA İ., EFFECTS OF ANODIZING PARAMETERS ON THE FORMATION OF TITANIUM DIOXIDE NANOTUBE ARRAYS ON Ti₆Al₄V ALLOY, Postgraduate, Z.AYÇA(Student), 2015
- KARAKAYA İ., Effects of anodizing parameters on the formation of titanium dioxide nanotube arrays on Ti₆Al₄V alloy, Postgraduate, Z.Ayça(Student), 2015
- KARAKAYA İ., Formation of Indium Solder Material by Electrochemical Methods, Postgraduate, O.ORKUT(Student), 2014
- KARAKAYA İ., Electrochemical formation of brazing alloys on metal substrates, Postgraduate, F.JULU(Student), 2014
- KARAKAYA İ., ELECTROCHEMICAL FORMATION OF COLD SHIELD FOR OPTOELECTRONIC DEVICES, Postgraduate, B.ARSLAN(Student), 2014
- KARAKAYA İ., KALKANLI A., Liquid phase sintering of tungsten-nickel-cobalt heavy alloys, Postgraduate, O.DİNÇER(Student), 2014
- KARAKAYA İ., Electrocodeposition of molybdenum disulfide particles in nickel matrix, Doctorate, E.SARALOĞLU(Student), 2013
- KARAKAYA İ., In-situ Formation of Mg-Ni Intermetallics, Postgraduate, F.ERDEN(Student), 2013
- KARAKAYA İ., Recovery of tungsten from tungsten bearing compounds, Doctorate, M.ERDOĞAN(Student), 2013
- KARAKAYA İ., Effect of chromium on the oxidation of steels used in the construction of petroleum refinery heaters,

Doctorate, A.SULTAN(Student), 2013

KARAKAYA İ., Production of Tungsten by Pulsed Potential Electroreduction, Postgraduate, O.GÖKÇE(Student), 2011

KARAKAYA İ., Reduction of silicon dioxide by electrochemical deoxidation, Postgraduate, E.ERGÜL(Student), 2010

KARAKAYA İ., ÖZTÜRK T., Ferroboration production by electrodeoxidation, Postgraduate, T.ÖRS(Student), 2008

KARAKAYA İ., Tungsten production by electrodeoxidation, Postgraduate, M.ERDOĞAN(Student), 2007

KARAKAYA İ., Electrolytic magnesium production using coaxial electrodes, Doctorate, G.DEMİRCİ(Student), 2006

KARAKAYA İ., High temperature corrosion of steels used in petroleum refinery heaters, Postgraduate,

A.SULTAN(Student), 2005

KARAKAYA İ., Hydrometallurgical treatment of Beylikahır rare earth preconcentrate, Doctorate, M.KUL(Student), 2003

KARAKAYA İ., Yiterbiyum-baryum-bakır oksit süperiletken şeritlerin sol-jel metodu ile üretimi ve karakterizasyonu,

Doctorate, H.OKUYUCU(Student), 2002

KARAKAYA İ., Development of a computer program for multi-element predominance area diagrams, Postgraduate,

E.KONCA(Student), 2000

KARAKAYA İ., Development of a computer program for thermodynamic calculation of binary phase diagrams,

Postgraduate, İ.NUMANOĞLU(Student), 1999

KARAKAYA İ., Molten salt electrolysis of magnesium and its hydrodynamics, Postgraduate, G.DEMİRCİ(Student), 1998

KARAKAYA İ., Purification of magnesium-lead alloy by molten salt electrolysis, Postgraduate, K.ÇITAK(Student), 1998

KARAKAYA İ., High temperature corrosion of boiler plant flues., Postgraduate, İ.ATİK(Student), 1998

KARAKAYA İ., Kalay-bizmut sisteminin termodinamiği, Postgraduate, H.OKUYUCU(Student), 1997

TOPKAYA Y. A. , KARAKAYA İ., Recovery of lead and cadmium from cinkur waelz oxide by using chloridizing volatilization method., Doctorate, M.Can(Student), 1996

KARAKAYA İ., An interactive computer program for predominance area diagrams, Postgraduate, M.MURAT(Student),

1994

KARAKAYA İ., Development of an interactive computer program for ternary phase diagrams (Using thermodynamic

data), Postgraduate, S.KEMAL(Student), 1992

KARAKAYA İ., Electrolysis of MgCl₂ with a top inserted anode and aMg-Pb cathode, Postgraduate, M.GÜDEN(Student),

1992

KARAKAYA İ., Recovery of germanium and other metals from the leach residue of Çinkur, Postgraduate, M.Can(Student),

1991

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A Novel and Eco-friendly Approach for the Simultaneous Recovery of Copper and Diamond from Waste Cutting Segments via Electrodeposition/Deposition**
Kul M., Erden F., OSKAY K. O. , Karasungur O., ŞİMŞİR M., Kumruoglu L. C. , KARAKAYA İ.
JOURNAL OF SUSTAINABLE METALLURGY, vol.7, no.3, pp.1224-1240, 2021 (SCI-Expanded)
- II. **Metallisation of high density polyurethane surfaces**
Unlu B., Oz Y., ERDOĞAN M., KARAKAYA İ.
INTERNATIONAL JOURNAL OF SURFACE SCIENCE AND ENGINEERING, vol.15, no.3, pp.242-264, 2021 (SCI-Expanded)
- III. **Effects and characterisations of pulse electrodeposition parameters of silver in terms of scattering parameter and surface roughness for waveguides operating at high frequencies**
Başaran C., KARAKAYA İ.
International Journal of Surface Science and Engineering, vol.15, no.2, pp.118-130, 2021 (SCI-Expanded)
- IV. **Combined effects of ALS and SLS on Al₂O₃ reinforced composite nickel coatings**
Yilmaz O., Erdogan M., Karakaya I.
SURFACE ENGINEERING, vol.36, no.5, pp.477-484, 2020 (SCI-Expanded)
- V. **Effects of fabrication method on initial powder characteristics and liquid phase sintering behaviour of tungsten**
Erol M., Erdogan M., Karakaya İ.

- INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS, vol.77, pp.82-89, 2018 (SCI-Expanded)
- VI. **Removal of Trace Amounts of Copper from Concentrated Hydrochloric Acid Solutions**
Erdogan M., Karakaya E., Aras M. S. , Karagul S. C. , Ersoy M. K. , Öztürk A., Karakaya İ.
INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, vol.13, pp.10934-10947, 2018 (SCI-Expanded)
- VII. **Formation and characterization of infrared absorbing copper oxide surfaces**
Arslan B., Demirci G., Erdogan M., Karakaya İ.
APPLIED SURFACE SCIENCE, vol.402, pp.218-224, 2017 (SCI-Expanded)
- VIII. **Investigation of the tribological behaviour of electrocodeposited Ni-MoS₂ composite coatings**
Güler E. S. , Konca E., KARAKAYA İ.
International Journal of Surface Science and Engineering, vol.11, no.5, pp.418-432, 2017 (SCI-Expanded)
- IX. **Processing and microstructural characterization of liquid phase sintered tungsten-nickel-cobalt heavy alloys**
DINCER O., PEHLIVANOGLU M. K. , CALISKAN N. K. , KARAKAYA İ., KALKANLI A.
INTERNATIONAL JOURNAL OF REFRACTORY METALS & HARD MATERIALS, vol.50, pp.106-112, 2015 (SCI-Expanded)
- X. **On the Preparation of Mg₂Ni by Combining Electrodeoxidation and Electrolysis Techniques**
ERDEN F., KARAKAYA İ., Erdogan M.
INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, vol.9, no.11, pp.6627-6639, 2014 (SCI-Expanded)
- XI. **Effects of current density, coating thickness, temperature, pH and particle concentration on internal stress during Ni-MoS₂ electrocodeposition**
Guler E. S. , KARAKAYA İ., KONCA E.
SURFACE ENGINEERING, vol.30, no.2, pp.109-114, 2014 (SCI-Expanded)
- XII. **Effect of Electrodeposition Parameters on the Current Density of Hydrogen Evolution Reaction in Ni and Ni-MoS₂ Composite Coatings**
Gueler E. S. , KONCA E., KARAKAYA İ.
INTERNATIONAL JOURNAL OF ELECTROCHEMICAL SCIENCE, vol.8, no.4, pp.5496-5505, 2013 (SCI-Expanded)
- XIII. **On the Electrochemical Reduction Mechanism of CaWO₄ to W Powder**
Erdogan M., KARAKAYA İ.
METALLURGICAL AND MATERIALS TRANSACTIONS B-PROCESS METALLURGY AND MATERIALS PROCESSING SCIENCE, vol.43, no.4, pp.667-670, 2012 (SCI-Expanded)
- XIV. **Influence of water vapour on high temperature oxidation of steels used in petroleum refinery heaters**
Sultan A., KARAKAYA İ., Erdogan M.
MATERIALS AND CORROSION-WERKSTOFFE UND KORROSION, vol.63, no.2, pp.119-126, 2012 (SCI-Expanded)
- XV. **Electrochemical decomposition of SiO₂ pellets to form silicon in molten salts**
Ergul E., KARAKAYA İ., Erdogan M.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.509, no.3, pp.899-903, 2011 (SCI-Expanded)
- XVI. **Direct synthesis of Mg-Ni compounds from their oxides**
Tan S., Aydinol K., ÖZTÜRK T., KARAKAYA İ.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.504, no.1, pp.134-140, 2010 (SCI-Expanded)
- XVII. **Electrochemical Reduction of Tungsten Compounds to Produce Tungsten Powder**
ERDOĞAN M., KARAKAYA İ.
METALLURGICAL AND MATERIALS TRANSACTIONS B-PROCESS METALLURGY AND MATERIALS PROCESSING SCIENCE, vol.41, no.4, pp.798-804, 2010 (SCI-Expanded)
- XVIII. **Synthesis of Fe-4.6 wt% B alloy via electro-deoxidation of mixed oxides**
Ors T., Tan S., ÖZTÜRK T., KARAKAYA İ.
JOURNAL OF MATERIALS SCIENCE, vol.44, no.13, pp.3514-3519, 2009 (SCI-Expanded)
- XIX. **Synthesis of FeTi from mixed oxide precursors**
Tan S., Oers T., AYDINOL M. K. , ÖZTÜRK T., KARAKAYA İ.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.475, pp.368-372, 2009 (SCI-Expanded)

- XX. **Electrolytic magnesium production and its hydrodynamics by using an Mg-Pb alloy cathode**
Demirci G., KARAKAYA İ.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.465, pp.255-260, 2008 (SCI-Expanded)
- XXI. **Rare earth double sulfates from pre-concentrated bastnasite**
Kul M., TOPKAYA Y. A. , KARAKAYA İ.
HYDROMETALLURGY, vol.93, pp.129-135, 2008 (SCI-Expanded)
- XXII. **Collection of magnesium in an Mg-Pb alloy cathode placed at the bottom of the cell in MgCl₂ electrolysis**
Demirci G., Karakaya I.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.439, pp.237-242, 2007 (SCI-Expanded)
- XXIII. **ELECTROLYSIS OF MGCL₂ WITH A TOP INSERTED ANODE AND AN MG PB CATHODE**
GUDEN M., KARAKAYA İ.
JOURNAL OF APPLIED ELECTROCHEMISTRY, vol.24, no.8, pp.791-797, 1994 (SCI-Expanded)
- XXIV. **The Ag Se Silver Selenium System**
KARAKAYA İ., Thompson W. T.
Bulletin of Alloy Phase Diagrams, vol.11, pp.266-271, 1990 (SCI-Expanded)
- XXV. **The Ag Mn Silver Manganese System**
KARAKAYA İ.
Bulletin of Alloy Phase Diagrams, vol.11, pp.480-486, 1990 (SCI-Expanded)
- XXVI. **The Ag N Silver Nitrogen System**
KARAKAYA İ.
Bulletin of Alloy Phase Diagrams, vol.11, pp.486-487, 1990 (SCI-Expanded)
- XXVII. **The Ag B Silver Boron System**
KARAKAYA İ.
Bulletin of Alloy Phase Diagrams, vol.11, pp.547, 1990 (SCI-Expanded)
- XXVIII. **ADVICE SYSTEM ON HIGH-TEMPERATURE ALLOY CORROSION**
JOHN R., THOMPSON W., KARAKAYA I.
MATERIALS PERFORMANCE, vol.28, no.1, pp.69-73, 1989 (SCI-Expanded)
- XXIX. **PARTIAL MOLAR PROPERTIES OF MGCL₂ IN MGCL₂-KCL-CACL₂ MELTS**
ZHU J., KARAKAYA I., THOMPSON W.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.135, no.1, pp.122-126, 1988 (SCI-Expanded)
- XXX. **The Ag P Silver Phosphorus System**
KARAKAYA İ.
Bulletin of Alloy Phase Diagrams, vol.9, pp.232-236, 1988 (SCI-Expanded)
- XXXI. **The Ag Re Silver Rhenium System**
KARAKAYA İ.
Bulletin of Alloy Phase Diagrams, vol.9, pp.243-244, 1988 (SCI-Expanded)
- XXXII. **The Ag Pb Silver Lead System**
KARAKAYA İ.
Bulletin of Alloy Phase Diagrams, vol.8, pp.326-334, 1987 (SCI-Expanded)
- XXXIII. **A THERMODYNAMIC STUDY OF THE SYSTEM MGCL₂-NACL-CACL₂**
KARAKAYA İ., THOMPSON W.
CANADIAN METALLURGICAL QUARTERLY, vol.25, no.4, pp.307-317, 1986 (SCI-Expanded)
- XXXIV. **THERMODYNAMIC PROPERTIES OF MGCL₂-NACL MELTS FROM EMF-MEASUREMENTS**
KARAKAYA İ., thompson w.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.133, no.4, pp.702-706, 1986 (SCI-Expanded)
- XXXV. **Thermodynamic properties of 1 x MgCl₂ xCaCl₂ melts**
KARAKAYA İ., thompson w.
J. Chemical Thermodynamics, vol.18, pp.859-866, 1986 (SCI-Expanded)
- XXXVI. **The Ag Os Silver Osmium System**
KARAKAYA İ., thompson w.

- Bulletin of Alloy Phase Diagrams, vol.7, pp.360-362, 1986 (SCI-Expanded)
- XXXVII. **The Ag Ir Silver Iridium System**
KARAKAYA İ.
- Bulletin of Alloy Phase Diagrams, vol.7, pp.359-360, 1986 (SCI-Expanded)
- XXXVIII. **Introduction of boundary conditions in the Pelton Flengas Gibbs Duhem Integration for ternary solutions**
KARAKAYA İ., thompson w.
Canadian Journal of Chemistry, vol.63, pp.2808-2809, 1985 (SCI-Expanded)
- XXXIX. **Correction**
KARAKAYA İ., thompson w.
Can. J. Chem., vol.63, pp.3634, 1985 (SCI-Expanded)
- XL. **Thermodynamic properties of SnO in SnO TiO₂ melts**
KARAKAYA İ., William T T.
Canadian Metallurgical Quarterly, vol.22, pp.61-65, 1983 (SCI-Expanded)

Articles Published in Other Journals

- I. **Investigation of Au-Ag-Cu Alloy Electrodeposition to Electromechanical Systems**
Çağan B., Erdoğan M., Yılmaz C., Yurdakul B., Karakaya I.
ECS Transactions, vol.97, no.7, pp.485-490, 2020 (Scopus)
- II. **Effects of Pulse Electroplating Parameters on Return Loss (S₁₁) and Surface Roughness of Silver Coatings**
Başaran C., KARAKAYA İ.
ECSArxiv, 2019 (Peer-Reviewed Journal)
- III. **ERİMİŞ TUZ İÇİNDE ELEKTROKİMYASAL İNDİRGEME YÖNTEMİYLE SİLİSYUM ÜRETİMİ**
ERDOĞAN M., Ergül E., KARAKAYA İ.
Selçuk Üniversitesi Mühendislik Bilim ve Teknoloji Dergisi, 2017 (Peer-Reviewed Journal)
- IV. **Katı Molibden Bileşiklerinin Elektrokimyasal İndirgenmesiyle Molibden Üretimi**
ERDOĞAN M., Akpınar B., KARAKAYA İ.
Çukurova Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, 2017 (Peer-Reviewed Journal)
- V. **Friction Reducing Composite Plating in Rocket Launchers. International Journal of Engineering Research Development**
SARALOĞLU GÜLER E., KARAKAYA İ.
International Journal of Engineering Research Development, 2017 (Peer-Reviewed Journal)
- VI. **Oxidation of Low Chromium Steels in Dry and Moist Atmospheres**
ERDOĞAN M., SULTAN a., KARAKAYA İ.
OXIDATION COMMUNICATIONS, vol.40, pp.51-60, 2017 (Scopus)
- VII. **Taguchi Design of Internal Stress and Friction Measurements during Electrodeposition**
SARALOĞLU GÜLER E., KARAKAYA İ.
Journal of Material Science Engineering, vol.6, 2017 (Peer-Reviewed Journal)
- VIII. **The Role of Electrolyte Composition on Codeposited Ag and Cu**
ulu f., Demici G., ERDOĞAN M., KARAKAYA İ.
ECS Transactions, vol.72, pp.35-44, 2016 (Scopus)
- IX. **A Pulse Voltage Application in Electrochemical Reduction of Solid CaWO₄ Powder**
Goksu O. G., ERDOĞAN M., KARAKAYA İ.
ECS Transactions, vol.72, pp.31-39, 2016 (Scopus)
- X. **Formation of gold plated electroformed copper structures**
ARSLAN B., Demirci G., KARAKAYA İ., ERDOĞAN M.
Advances in Materials and Processing Technologies, vol.1, pp.384-393, 2016 (Scopus)
- XI. **Formation of Titanium Dioxide Nanotube Arrays by Anodizing Ti6Al4V Alloy**

KARAKAYA İ., ERDOĞAN M.

ECS Transactions, vol.58, pp.45-52, 2014 (Scopus)

XII. The Ag C Silver Carbon System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.9, pp.226-227, 1988 (Peer-Reviewed Journal)

XIII. The Pb Sn Lead Tin System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.9, pp.144-152, 1988 (Peer-Reviewed Journal)

XIV. A Database for the Selection of Materials for High Temperature Service

KARAKAYA İ., Randy C J., William T T.

Materials & Components in Fossil Energy Applications, US Department of Energy Newsletter, pp.1-3, 1988 (Peer-Reviewed Journal)

XV. The Ag Pd Silver Palladium System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.9, pp.237-243, 1988 (Peer-Reviewed Journal)

XVI. The Ag Sn Silver Tin System

Karakaya İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.8, pp.340-347, 1987 (Peer-Reviewed Journal)

XVII. The Ag Pt Silver Platinum System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.8, pp.334-340, 1987 (Peer-Reviewed Journal)

XVIII. The Ag Co Silver Cobalt System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.7, pp.259-263, 1986 (Peer-Reviewed Journal)

XIX. The Ag Ru Silver Ruthenium System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.7, pp.365-368, 1986 (Peer-Reviewed Journal)

XX. The Ag Rh Silver Rhodium System

KARAKAYA İ., William T T.

Bulletin of Alloy Phase Diagrams, vol.7, pp.362-365, 1986 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. Metallization of High Density Polyurethane Surfaces

Aykaç B., KARAKAYA İ., ERDOĞAN M., Öz Y.

237th ECS Meeting, Montreal, Canada, 10 May 2020, vol.97, pp.1

II. Formation of Mo Metal Powder By Electrochemical Reduction of CaMoO₄ and MoS₂ Compounds

akpınar b., ERDOĞAN M., KARAKAYA İ.

237th ECS Meeting, Montreal, Canada, 10 May 2020

III. Modeling and Experimental Validation of Critical Distance and the Maximum Depth of Galvanic Corrosion-Induced Pitting on the 2024-T3 with CFRP Joint

Yıldırım M. A. , Erdoğan M., Karakaya İ.

237th ECS Meeting, Montreal, Canada, 10 May 2020

IV. Effects and Characterizations of Pulse Electrodeposition Parameters of Silver on Surface Roughness and Scattering Parameters of Horn Antennas

Başaran C., KARAKAYA İ.

235th ECS Meeting, 26 - 29 May 2019

V. Electrochemical Formation of Alloys of Aluminum in Molten Salts

Polat Ç., Erdoğan M., Karakaya İ.

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

pp.132-135

- VI. **Effect of Heat Treatment on the Microstructure and Surface Properties of Ni-Based Platings**
Başkan M., Erdoğan M., Karakaya İ.
19th International Metallurgy and Materials Congress (IMMC 2018), İstanbul, Turkey, 25 - 27 October 2018, pp.1008-1011
- VII. **Electrochemical Deposition of Au-Ag-Cu Alloys on CuBe₂**
Çetinöz B., Erdoğan M., Karakaya İ., Yurdakul E. B.
19th International Metallurgy and Materials Congress, ISTANBUL (IMMC 2018), İstanbul, Turkey, 25 - 27 October 2018, pp.1052-1056
- VIII. **Electrochemical etching of an Fe-Ni-Co alloy**
Aksu Y., Demirci G., Erdoğan M., Karakaya İ.
5th International Conference on Welding Technologies and Exhibition (ICWET'18), Sarajevo, Bosnia And Herzegovina, 26 - 28 September 2018, pp.56
- IX. **Electrochemical etching of an Fe-Ni-Co alloy**
Aksu Y., Demirci G., Erdoğan M., Karakaya İ.
5th International Conference on Welding Technologies and Exhibition (ICWET'18), Sarajevo, Bosnia And Herzegovina, 26 - 28 September 2018, pp.56
- X. **Electrochemical Removal of Copper from Regenerated Pickling Solutions of Steel Plants**
Karakaya E., Aras M. S. , Erdoğan M., Karagül S., Ersoy M., Karakaya İ.
233rd ECS Meeting, Washington, United States Of America, 13 - 17 May 2018, pp.1295
- XI. **Optimization of Mechanical Properties of Nickel-Cobalt Coatings from Sulphamate Baths**
Karakaya E., Başkan M., Erdoğan M., Karakaya İ.
233rd ECS Meeting, Washington, United States Of America, 13 - 17 May 2018, pp.1305
- XII. **Electrochemical Removal of Copper from Regenerated Pickling Solutions of Steel Plants**
Karakaya E., Aras M. S. , Erdoğan M., Karagül S., Ersoy M., Karakaya İ.
233rd ECS Meeting, Washington, United States Of America, 13 - 17 May 2018, pp.1295
- XIII. **Characterization of the Liquid Phase Sintered Tungsten Heavy Alloys Prepared by an Electrochemically Produced Tungsten Powder**
Erol M., Erdoğan M., Karakaya İ.
Powder Metallurgy of Light, Reactive and Other Non-ferrous Metals, TMS 2018, Arizona, United States Of America, 11 - 15 March 2018, pp.1
- XIV. **An Electrochemical Procedure for Copper Removal from Regenerated Pickling Solutions of Steel Plants**
Karakaya E., Aras M. S. , ERDOĞAN M., Karagul S. C. , Ersoy M. K. , KARAKAYA İ.
Energy Technologies Symposium, Arizona, United States Of America, 11 - 15 March 2018, pp.275-281
- XV. **Investigation of the Mechanical Properties of Al₂O₃ Reinforced Nickel Composite Coatings, Metal-Matrix Composites Innovations, Advances and Applications**
Yılmaz O., Erdoğan M., Karakaya İ.
TMS 2018, Arizona, United States Of America, 11 - 15 March 2018, pp.1
- XVI. **Characterization of the Liquid Phase Sintered Tungsten Heavy Alloys Prepared by an Electrochemically Produced Tungsten Powder**
Erol M., Erdoğan M., Karakaya İ.
Powder Metallurgy of Light, Reactive and Other Non-ferrous Metals, TMS 2018, Arizona, United States Of America, 11 - 15 March 2018, pp.1
- XVII. **Electrochemical Formation of Alloys of Scandium in Molten Salts**
polat ç., ERDOĞAN M., iplikçioğlu S., KARAKAYA İ.
TMS 2018, Phoenix, United States Of America, 11 - 15 March 2018, pp.1555-1558
- XVIII. **Investigation of the Mechanical Properties of Al₂O₃ Reinforced Nickel Composite Coatings**
Yılmaz O., ERDOĞAN M., KARAKAYA İ.
TMS 2018, Phoenix, 11 - 15 March 2018
- XIX. **Friction Reducing Composite Plating in Rocket Launchers. Uluslararası le**

SARALOĞLU GÜLER E., KARAKAYA İ.

2. Uluslararası Savunma Sanayii Sempozyumu, 6 - 08 April 2017, vol.9, pp.1-5

- XX. **EFFECTS OF COBALT AND IRON ALTERNATION ON THE BINDER PHASE COMPOSITION AND AVERAGE GRAIN SIZE OF W-Ni-X HEAVY ALLOYS,, PPM 2017 İzmir September 12-15 2017**
EROL M., ERDOĞAN M., KARAKAYA İ.
International Porous and Powder Materials Symposium, 12 - 15 September 2017
- XXI. **Internal stress and friction measurements during MoS₂-nickel electrodeposition. oma / İtalya 12/06/2017 - 14/06/2017**
SARALOĞLU GÜLER E., KARAKAYA İ.
9th World Congress on Materials Science Engineering, 12 - 14 June 2017
- XXII. **Determination of Internal Stress of Ni Electroplated Samples in Sulphamate Solutions**
Aykaç B., Erdogan M., KARAKAYA İ.
Symposium on Plasma Nano Science and Technology held during the 231st Meeting of the Electrochemical-Society (ECS), Louisiana, United States Of America, 28 May - 01 June 2017, vol.77, pp.1079-1084
- XXIII. **The use of Silicon Wafer Barriers in the Electrochemical Reduction of Solid Silica to Form Silicon in Molten Salts**
AKPINAR B., ERDOĞAN M., Akduman B., KARAKAYA İ.
Symposium on Plasma Nano Science and Technology held during the 231st Meeting of the Electrochemical-Society (ECS), Louisiana, United States Of America, 28 May - 01 June 2017, vol.77, pp.2011-2016
- XXIV. **Formation and Characterization of Sub-Micron Inert Particle Embedded Nickel Composite Coatings**
YILMAZ TÜZÜN Ö., ERDOĞAN M., KARAKAYA İ.
Symposium on Plasma Nano Science and Technology held during the 231st Meeting of the Electrochemical-Society (ECS), Louisiana, United States Of America, 28 May - 01 June 2017, vol.77, pp.1029-1034
- XXV. **Electrochemical Reduction of Molybdenum Compounds to Form Molybdenum Powder**
akpınar b., ERDOĞAN M., KARAKAYA İ.
231 st ECS Meeting, 29 May - 02 June 2017
- XXVI. **Electrochemical Reduction of Solid Silica to Form Silicon in Molten Salts**
akpınar b., ERDOĞAN M., ergül e., akduman b., KARAKAYA İ.
231 st ECS Meeting, 29 May - 02 June 2017
- XXVII. **A Molten Salt Electrolysis Procedure to Form Al-Sc Alloys**
polat ç., ERDOĞAN M., KARAKAYA İ.
231 st ECS Meeting, 29 May - 02 June 2017
- XXVIII. **Effects of Pulse-Reverse Currents on Nickel Deposited from Sulphamate Solutions**
çetinöz B., ERDOĞAN M., aras m. s. , KARAKAYA İ.
231 st ECS Meeting, 29 May - 02 June 2017
- XXIX. **Corrosion Behavior and Cathodic Protection Modeling of a Selected Steel Component in Seawater**
AKSU R., ERDOĞAN M., Meço H., KARAKAYA İ.
IMMC'xx18, 29 September - 01 October 2016, pp.819-822
- XXX. **Corrosion Behaviors of Different Aluminum Alloys and Cathodic Protection Application to the Amphibious Military Vehicles**
Uğuz R. O. , Meço H., ERDOĞAN M., KARAKAYA İ.
IMMC'xx18, 29 September - 01 October 2016, pp.826-829
- XXXI. **Eff ects of pH and Cobalt Concentration on the Properties of Nickel Cobalt Alloy Plating**
Başkan M., ERDOĞAN M., KARAKAYA İ.
IMMC'xx18, İstanbul, Turkey, 29 September - 01 October 2016, pp.740-743
- XXXII. **Liquid Phase Sintering Behaviour of Tungsten Powders Produced by the Electrochemical Reduction**
EROL M., ERDOĞAN M., KARAKAYA İ.
IMMC'xx18, 29 September - 01 October 2016, pp.650-653
- XXXIII. **Investigation of the Larger Scale Tungsten Production by the Electrochemical Reduction Technique**
ÖZDEMİR F., ERDOĞAN M., Elmadağlı M., KARAKAYA İ.
IMMC'xx18, 29 September - 01 October 2016, pp.596-599

- XXXIV. **Amfibik Askeri Zırhlı Araçlarının Seçili Parçalarının Deniz Suyu Ortamında Katodik Koruma Modellemesi**
Uğuz R. O. , AKSU R., Meço H., ERDOĞAN M., KARAKAYA İ.
KORSEM 14, 5 - 06 October 2016
- XXXV. **Investigation, Modeling and Design of a Cathodic Protection System for Hull Structures in Marine Environment**
Aksu R., Uguz R. O. , ERDOĞAN M., Meco H., KARAKAYA İ.
Symposium on Corrosion General Session held during the 229th Meeting of The-Electrochemical-Society, California, United States Of America, 29 May - 02 June 2016, vol.72, pp.163-170
- XXXVI. **Electropolishing of an Fe-Ni-Co Alloy in Acetic Acid-Perchloric Acid Mixture**
Aksu Y., ERDOĞAN M., Demirci G., KARAKAYA İ.
Symposium on Industrial Electrochemistry and Electrochemical Engineering General Session held during the 229th Meeting of The Electrochemical-Society, California, United States Of America, 29 May - 02 June 2016, vol.72, pp.13-21
- XXXVII. **Nickel and Gold Coatings of Germanium and Kovar Substrates**
Cetin Y., ERDOĞAN M., Demirci G., KARAKAYA İ.
Symposium on Industrial Electrochemistry and Electrochemical Engineering General Session held during the 229th Meeting of The Electrochemical-Society, California, United States Of America, 29 May - 02 June 2016, vol.72, pp.55-64
- XXXVIII. **In Search of an Alternative Solar Grade Silicon Production By Electrochemical Reduction of SiO₂**
Akpınar B., ERDOĞAN M., KARAKAYA İ.
ECS 229, 29 May - 02 June 2016, pp.2164
- XXXIX. **The Role of Electrolyte Composition on Codeposited Ag and Cu**
KARAKAYA İ., Ulu F., Demirci G., ERDOĞAN M.
229th ECS Meeting, 29 May - 02 June 2016
- XL. **Electropolishing of an Fe Ni Co Alloy in Acetic Acid Perchloric Acid Mixture F01 1131 Industrial Electrochemistry and Electrochemical Engineering General Session**
Aksu Y., ERDOĞAN M., Demirci G., KARAKAYA İ.
229th ECS Meeting, 29 May - 02 June 2016
- XLI. **A Pulse Voltage Application in Electrochemical Reduction of Solid CaWO₄ Powder**
KARAKAYA İ., ERDOĞAN M., Göksu G.
ECS 229, 29 May - 02 June 2016
- XLII. **Investigation of Process Parameters for the Nickel Coatings from Sulphamate Baths NASHVILLE TENNESSEE USA 14 18 Feb 2016**
Başkan M., ERDOĞAN M., KARAKAYA İ.
TMS 2016, 14 - 18 February 2016
- XLIII. **Investigation of the Corrosion Behavior of Selected Steel Types and Aluminum Alloys in Marine Environment**
AKSU R., Uğuz O., ERDOĞAN M., Meço H., Aras M. S. , KARAKAYA İ.
TMS 2016, NASHVILLE, United States Of America, 14 - 18 February 2016
- XLIV. **Production of Tungsten by Pulse Current Reduction of CaWO₄**
ÖZDEMİR F., ERDOĞAN M., Elmadağlı M., KARAKAYA İ.
TMS 2016, Nashville, United States Of America, 14 - 18 February 2016, pp.151-158
- XLV. **In situ Formation of Mg Ni Intermetallics by a two step Electrochemical Technique**
KARAKAYA İ., ERDOĞAN M., Fuat E.
mESC-IS 2015, Int. Symposium on Materials for Energy Storage and Conversion, Ankara, Turkey, 7 - 09 September 2015
- XLVI. **Preparation of Surfaces of Germanium and Kovar Substrates By Electroplating for Soldering**
KARAKAYA İ., ERDOĞAN M., Çetin Y., Demirci G.
227th Electrochem. Soc. Meeting, Chicago, United States Of America, 24 - 28 May 2015
- XLVII. **Effect of Bath Composition on the Composition and Morphology of Electrodeposited Ag Cu Alloys**

- KARAKAYA İ., ERDOĞAN M., Ulu F., Demirci G.
227th Electrochem. Soc. Meeting, Chicago, United States Of America, 24 - 28 May 2015
- XLVIII. **Structural Properties of Electrolytic Nickel Deposits Produced By Direct Pulse and Pulse Reverse Currents in the Organic Free Watts Electrolytes**
ARSLAN B., KARAKAYA İ., ERDOĞAN M., Demirci G.
227th Electrochem. Soc. Meeting, Chicago, United States Of America, 24 - 28 May 2015
- XLIX. **AN INTERRUPTED IN-SITU METHOD FOR ELECTROCHEMICAL FORMATION OF Mg-Ni INTERMETALLICS**
Erden F., KARAKAYA İ., ERDOĞAN M.
143rd TMS Annual Meeting & Exhibition, California, United States Of America, 16 - 20 February 2014, pp.683-693
- L. **Comparison of Structural Properties of Copper Deposits from Sulfate and Pyrophosphate Electrolytes**
ARSLAN B., Ulgudur N., ERDOĞAN M., İMAMOĞLU İ., KARAKAYA İ.
Symposium on Fundamentals of Electrochemical Growth - From UPD to Microstructures 3 held during the 224th Meeting of the Electrochemical-Society (ECS), San-Francisco, Costa Rica, 27 October - 01 November 2013, vol.58, pp.105-113
- LI. **Electrochemical Formation of Brazing Alloys on Metal Substrates**
Ulu F., KARAKAYA İ., Demirci G., ERDOĞAN M.
Symposium on Fundamentals of Electrochemical Growth - From UPD to Microstructures 3 held during the 224th Meeting of the Electrochemical-Society (ECS), San-Francisco, Costa Rica, 27 October - 01 November 2013, vol.58, pp.61-69
- LII. **EFFECT OF ELECTROPLATING PARAMETERS ON "HER" CURRENT DENSITY IN Ni-MoS₂ COMPOSITE PLATING**
Guler E. S. , KARAKAYA İ., KONCA E.
Symposium on Materials Processing and Interfaces from 141st TMS Annual Meeting and Exhibition, California, United States Of America, 11 - 15 March 2012, pp.57-64
- LIII. **MIXTURE DESIGN APPLIED TO THE ELECTROCHEMICAL REDUCTION OF CaWO₄ TO W**
Erdogan M., KARAKAYA İ., Goksu O. G.
T T Chen Honorary Symposium on Hydrometallurgy, Electrometallurgy and Materials Characterization held during the 141st TMS Annual Meeting and Exhibition, Florida, United States Of America, 11 - 15 March 2012, pp.761-767
- LIV. **MOLTEN SALT ELECTROLYSIS OF MgCl₂ IN A CELL WITH RAPID CHLORINE REMOVAL FEATURE**
Demirci G., Karakaya I.
Symposium on Magnesium Technology held during TMS Annual Meeting and Exhibition, Florida, United States Of America, 11 - 15 March 2012, pp.59-62
- LV. **AN INVESTIGATION INTO THE ELECTROCHEMICAL PRODUCTION OF Si BY THE FFC CAMBRIDGE PROCESS**
ERGUL E., KARAKAYA İ., Erdogan M., ERDEN F.
Conference of the Extraction-and-Processing-Division (EPD) held during the 141st TMS Annual Meeting and Exhibition, Florida, United States Of America, 11 - 15 March 2012, pp.455-462
- LVI. **RAPID REMOVAL OF CHLORINE IN MOLTEN SALT ELECTROLYSIS OF MAGNESIUM CHLORIDE**
Demirci G., KARAKAYA İ.
Symposium of the Extraction-and-Processing-Division (EPD) held during 140th TMS Annual Meeting and Exhibition, California, United States Of America, 27 February - 03 March 2011, pp.597-604
- LVII. **Effects of Rapid Chlorine Removal on the Electrolytic Magnesium Production**
Demirci G., KARAKAYA İ.
15. Uluslararası Metalurji ve Malzeme Konf, 19 October 2010, pp.1310-1319
- LVIII. **Topkaya Y Kul M and Karakaya İ Recovery of Rare Earths from a Bastnasite Preconcentrate Rare Earths and Actinides Science Technology and Applications IV TMS 2000 p 11 16**
Topkaya Y. A. , KUL M., KARAKAYA İ.
TMS, warrendale, United States Of America, 1 - 05 February 2010, pp.11-16

Episodes in the Encyclopedia

- I. **ASM Handbook Volume 3 Alloy Phase Diagrams**
KARAKAYA İ., William T T.
ASM International, pp., 2001

Supported Projects

- KARAKAYA İ., Project Supported by Other Private Institutions, Pal İçin Elektroform Yöntemiyle Erozyon Kalkanı Üretimi, 2015 - Continues
- KARAKAYA İ., POLAT Ç., Project Supported by Higher Education Institutions, ERİMİŞ TUZ İÇERİSİNDE ELEKTROKİMYASAL YÖNTEMLE AL-SC ALAŞIMI OLUŞTURULMASI, 2018 - 2019
- KARAKAYA İ., ALTUNBAŞAK T., Project Supported by Higher Education Institutions, Değerli Parçacık Gömülü Kompozit Atıkların Entegre Geri Dönüşümü, 2018 - 2019
- KARAKAYA İ., Project Supported by Higher Education Institutions, SİLİNDİRİK AKORDİYON GEOMETRİSİNİN ELECTROFORM YÖNTEMİ İLE OLUŞTURULMASI VE KARAKTERİZASYONU, 2017 - 2017
- KARAKAYA İ., YILMAZ O., Project Supported by Higher Education Institutions, MİKRON ALTI İKİNCİ PARÇACIK GÖMÜLÜ NİKEL BAZLI KOMPOZİT KAPLAMANIN ELEKTROLİZLE ŞEKİLLENDİRME YÖNTEMİYLE OLUŞTURULMASI VE KARAKTERİZASYONU, 2017 - 2017
- KARAKAYA İ., Project Supported by Higher Education Institutions, REFRAKTER METAL MOLİBDEN TOZUNUN ELEKTROKİMYASAL YÖNTEMLE ÜRETİMİ, 2017 - 2017
- KARAKAYA İ., Project Supported by Higher Education Institutions, ERİMİŞ TUZ İÇERİSİNDE ELEKTROKİMYASAL YÖNTEMLE AL-SC ALAŞIMI OLUŞTURULMASI, 2017 - 2017
- KARAKAYA İ., Project Supported by Higher Education Institutions, Mg-Ni Metaller Arası Bileşiklerinin Erimiş Tuz İçerisinde Üretilmesi, 2012 - 2013

Patent

- KARAKAYA İ., Elektrodeoksidasyon ve Erişim Tuz Elektrolizi Metotlarının Intermetalik ve/veya Alaşım Üretmek için Birleştirilmesi, Patent, CHAPTER C Chemistry; Metallurgy, Standard Registration, 2016
- Karakaya İ., Tungsten içeren bileşiklerden elektrokimyasal metotlarla tungsten ve tungsten alaşımları kazanımı, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: TR2007 07197B , Standard Registration, 2010

Metrics

- Publication: 119
Citation (WoS): 443
Citation (Scopus): 483
H-Index (WoS): 12
H-Index (Scopus): 13