

Yrd.Doç.Dr. Cem Örnek

Kişisel Bilgiler

E-posta: cornek@itu.edu.tr

Web: <https://avesis.itu.edu.tr/cornek>

Uluslararası Araştırmacı ID'leri

ORCID: 0000-0002-3029-6493

Publons / Web Of Science ResearcherID: J-6006-2015

ScopusID: 55921055500

Yoksis Araştırmacı ID: 329991

Eğitim Bilgileri

Yüksek Lisans, The University of Manchester, Mazleme Bilimi, Mazleme Bilimi, Birleşik Krallık 2011 - 2015

Lisans, Fachhochschule Aalen-Hochschule für Technik, Makine Mühendisliği, Makine Mühendisliği, Almanya 2007 - 2011

Yabancı Diller

Türkçe, C1 İleri

Fransızca, A2 Temel

Almanca, C1 İleri

İngilizce, C1 İleri

İsveççe, B2 Orta Üstü

Arapça, A2 Temel

Yaptığı Tezler

Bütünleşik Doktora, Performance Characterisation of Duplex Stainless Steel in Nuclear Waste Storage Environment, The University of Manchester, Malzeme Bilimi, Malzeme Bilimi, 2016

Akademik Unvanlar / Görevler

Dr.Öğr.Üyesi, İstanbul Teknik Üniversitesi, Kimya-Metalurji, Metalurji Ve Malzeme Mühendisliği, 2021 - Devam Ediyor

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Time-resolved grazing-incidence X-ray diffraction measurement to understand the effect of hydrogen on surface strain development in super duplex stainless steel**
Ornek C., Larsson A., Harlow G. S., Zhang F., Kroll R., Carla F., Hussain H., Kivisakk U., Engelberg D. L., Lundgren E., et al.
Scripta Materialia, cilt.187, ss.63-67, 2020 (SCI-Expanded)
- II. **Lateral variation of the native passive film on super duplex stainless steel resolved by synchrotron hard X-ray photoelectron emission microscopy**

Langberg M., Zhang F., Granas E., Ornek C., Cheng J., Liu M., Wiemann C., Gloskovskii A., Keller T. F., Schlueter C., et al.

Corrosion Science, cilt.174, 2020 (SCI-Expanded)

- III. **Anodisation of aluminium alloy AA7075-Influence of intermetallic particles on anodic oxide growth**
Zhang F., Ornek C., Nilsson J., Pan J.
CORROSION SCIENCE, cilt.164, 2020 (SCI-Expanded)
- IV. **Real-Time Corrosion Monitoring of Aluminum Alloy Using Scanning Kelvin Probe Force Microscopy**
Ornek C., Leygraf C., Pan J.
Journal of the Electrochemical Society, cilt.167, sa.8, 2020 (SCI-Expanded)
- V. **Characterization of Native Oxide and Passive Film on Austenite/Ferrite Phases of Duplex Stainless Steel Using Synchrotron HAXPEEM**
Langberg M., Ornek C., Zhang F., Cheng J., Liu M., Granaes E., Wiemann C., Gloskovskii A., Matveyev Y., Kulkarni S., et al.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.166, sa.11, 2019 (SCI-Expanded)
- VI. **Stress Corrosion Cracking and Hydrogen Embrittlement of Type 316L Austenitic Stainless Steel Beneath MgCl₂ and MgCl₂: FeCl₃ Droplets**
Ornek C.
CORROSION, cilt.75, sa.6, ss.657-667, 2019 (SCI-Expanded)
- VII. **Redefining passivity breakdown of super duplex stainless steel by electrochemical operando synchrotron near surface X-ray analyses**
Langberg M., Ornek C., Evertsson J., Harlow G. S., Linpe W., Rullik L., Carla F., Felici R., Bettini E., Kivisakk U., et al.
NPJ MATERIALS DEGRADATION, cilt.3, sa.1, 2019 (SCI-Expanded)
- VIII. **Influence of Surface Strain on Passive Film Formation of Duplex Stainless Steel and Its Degradation in Corrosive Environment**
Ornek C., Langberg M., Evertsson J., Harlow G., Linpe W., Rullik L., Carla F., Felici R., Kivisakk U., Lundgren E., et al.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.166, sa.11, 2019 (SCI-Expanded)
- IX. **Nickel fluoride as a surface activation agent for electroless nickel coating of anodized AA1050 aluminum alloy**
Kocabas M., Ornek C., Curioni M., CANSEVER N.
SURFACE & COATINGS TECHNOLOGY, cilt.364, ss.231-238, 2019 (SCI-Expanded)
- X. **On the Volta potential measured by SKPFM - fundamental and practical aspects with relevance to corrosion science**
Ornek C., Leygraf C., Pan J.
CORROSION ENGINEERING SCIENCE AND TECHNOLOGY, cilt.54, sa.3, ss.185-198, 2019 (SCI-Expanded)
- XI. **Corrosion inhibition of aluminium alloy AA6063-T5 by vanadates: Local surface chemical events elucidated by confocal Raman micro-spectroscopy**
Kharitonov D. S., Sommertune J., Ornek C., Ryl J., Kurilo I. I., Claesson P. M., Pan J.
CORROSION SCIENCE, cilt.148, ss.237-250, 2019 (SCI-Expanded)
- XII. **Experimental and modelling study of the effect of tempering on the susceptibility to environment-assisted cracking of AISI 420 martensitic stainless steel**
Anantha K. H., Ornek C., Ejnermark S., Thuvander A., Medvedeva A., Sjostrom J., Pan J.
CORROSION SCIENCE, cilt.148, ss.83-93, 2019 (SCI-Expanded)
- XIII. **Passive film characterisation of duplex stainless steel using scanning Kelvin probe force microscopy in combination with electrochemical measurements**
Ornek C., Leygraf C., Pan J.
NPJ MATERIALS DEGRADATION, cilt.3, sa.1, 2019 (SCI-Expanded)
- XIV. **Toward Understanding the Effects of Strain and Chloride Deposition Density on Atmospheric Chloride-Induced Stress Corrosion Cracking of Type 304 Austenitic Stainless Steel Under MgCl₂ and FeCl₃:MgCl₂ Droplets**
Ornek C., Engelberg D. L.
CORROSION, cilt.75, sa.2, ss.167-182, 2019 (SCI-Expanded)

- XV. **In-situ synchrotron GIXRD study of passive film evolution on duplex stainless steel in corrosive environment**
Ornek C., Langberg M., Evertsson J., Harlow G., Linpe W., Rullik L., Carla F., Felici R., Bettini E., Kivisakk U., et al.
CORROSION SCIENCE, cilt.141, ss.18-21, 2018 (SCI-Expanded)
- XVI. **Hydrogen embrittlement of super duplex stainless steel - Towards understanding the effects of microstructure and strain**
Ornek C., Reccagni P., Kivisakk U., Bettini E., Engelberg D. L., Pan J.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, cilt.43, sa.27, ss.12543-12555, 2018 (SCI-Expanded)
- XVII. **Volta Potential Evolution of Intermetallics in Aluminum Alloy Microstructure Under Thin Aqueous Adlayers: A combined DFT and Experimental Study**
Ornek C., Liu M., Pan J., Jin Y., Leygraf C.
TOPICS IN CATALYSIS, cilt.61, sa.9-11, ss.1169-1182, 2018 (SCI-Expanded)
- XVIII. **Microstructure and functionality of a uniquely graded super duplex stainless steel designed by a novel arc heat treatment method**
Hosseini V. A., Karlsson L., Ornek C., Reccagni P., Wessman S., Engelberg D.
MATERIALS CHARACTERIZATION, cilt.139, ss.390-400, 2018 (SCI-Expanded)
- XIX. **Time-dependent in situ measurement of atmospheric corrosion rates of duplex stainless steel wires**
Ornek C., Leonard F., McDonald S. A., Prajapati A., Withers P. J., Engelberg D. L.
NPJ MATERIALS DEGRADATION, cilt.2, sa.1, 2018 (SCI-Expanded)
- XX. **Corrosion Inhibition of Aluminum Alloy AA6063-T5 by Vanadates: Microstructure Characterization and Corrosion Analysis**
Kharitonov D. S., Ornek C., Claesson P. M., Sommertune J., Zharskii I. M., Kurilo I. I., Pan J.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.165, sa.3, 2018 (SCI-Expanded)
- XXI. **Additive manufacturing - a general corrosion perspective**
Ornek C.
CORROSION ENGINEERING SCIENCE AND TECHNOLOGY, cilt.53, sa.7, ss.531-535, 2018 (SCI-Expanded)
- XXII. **748 K (475 A degrees C) Embrittlement of Duplex Stainless Steel: Effect on Microstructure and Fracture Behavior**
Ornek C., Burke M. G., Hashimoto T., Engelberg D. L.
METALLURGICAL AND MATERIALS TRANSACTIONS A-PHYSICAL METALLURGY AND MATERIALS SCIENCE, cilt.48A, sa.4, ss.1653-1665, 2017 (SCI-Expanded)
- XXIII. **In Situ AFM Study of Localized Corrosion Processes of Tempered AISI 420 Martensitic Stainless Steel: Effect of Secondary Hardening**
Anantha K. H., Ornek C., Ejnermark S., Medvedeva A., Sjoström J., Pan J.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.164, sa.13, 2017 (SCI-Expanded)
- XXIV. **Correlative Microstructure Analysis and In Situ Corrosion Study of AISI 420 Martensitic Stainless Steel for Plastic Molding Applications**
Anantha K. H., Ornek C., Ejnermark S., Medvedeva A., Sjoström J., Pan J.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.164, sa.4, 2017 (SCI-Expanded)
- XXV. **Characterization of 475 degrees C Embrittlement of Duplex Stainless Steel Microstructure via Scanning Kelvin Probe Force Microscopy and Magnetic Force Microscopy**
Ornek C., Walton J., Hashimoto T., Ladwein T. L., Lyon S. B., Engelberg D. L.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, cilt.164, sa.6, 2017 (SCI-Expanded)
- XXVI. **Atmospheric-Induced Stress Corrosion Cracking of Grade 2205 Duplex Stainless Steel-Effects of 475 degrees C Embrittlement and Process Orientation**
Ornek C., Idris S. A. M., Reccagni P., Engelberg D. L.
METALS, cilt.6, sa.7, 2016 (SCI-Expanded)
- XXVII. **Towards understanding the effect of deformation mode on stress corrosion cracking susceptibility of grade 2205 duplex stainless steel**
Ornek C., Engelberg D. L.
MATERIALS SCIENCE AND ENGINEERING A-STRUCTURAL MATERIALS PROPERTIES MICROSTRUCTURE AND

- PROCESSING, cilt.666, ss.269-279, 2016 (SCI-Expanded)
- XXVIII. **An experimental investigation into strain and stress partitioning of duplex stainless steel using digital image correlation, X-ray diffraction and scanning Kelvin probe force microscopy**
Ornek C., Engelberg D. L.
JOURNAL OF STRAIN ANALYSIS FOR ENGINEERING DESIGN, cilt.51, sa.3, ss.207-219, 2016 (SCI-Expanded)
- XXIX. **Low-Temperature Environmentally Assisted Cracking of Grade 2205 Duplex Stainless Steel Beneath a MgCl₂:FeCl₃ Salt Droplet**
Ornek C., Zhong X., Engelberg D. L.
CORROSION, cilt.72, sa.3, ss.384-399, 2016 (SCI-Expanded)
- XXX. **Correlative EBSD and SKPFM characterisation of microstructure development to assist determination of corrosion propensity in grade 2205 duplex stainless steel**
Ornek C., Engelberg D. L.
JOURNAL OF MATERIALS SCIENCE, cilt.51, sa.4, ss.1931-1948, 2016 (SCI-Expanded)
- XXXI. **SKPFM measured Volta potential correlated with strain localisation in microstructure to understand corrosion susceptibility of cold-rolled grade 2205 duplex stainless steel**
Ornek C., Engelberg D. L.
CORROSION SCIENCE, cilt.99, ss.164-171, 2015 (SCI-Expanded)
- XXXII. **Probing propensity of grade 2205 duplex stainless steel towards atmospheric chloride-induced stress corrosion cracking**
Engelberg D. L., Ornek C.
CORROSION ENGINEERING SCIENCE AND TECHNOLOGY, cilt.49, sa.6, ss.535-539, 2014 (SCI-Expanded)
- XXXIII. **Correlative Tomography**
Burnett T. L., McDonald S. A., Gholinia A., Geurts R., Janus M., Slater T., Haigh S. J., Ornek C., Almuaili F., Engelberg D. L., et al.
SCIENTIFIC REPORTS, cilt.4, 2014 (SCI-Expanded)

Diğer Dergilerde Yayınlanan Makaleler

- I. **475 degrees C Embrittlement of Duplex Stainless Steel-A Comprehensive Microstructure Characterization Study**
Ornek C., Burke M. G., Hashimoto T., Lim J. J. H., Engelberg D. L.
MATERIALS PERFORMANCE AND CHARACTERIZATION, cilt.6, sa.3, ss.409-436, 2017 (ESCI)
- II. **Effect of "475°C embrittlement" on the corrosion behaviour of grade 2205 duplex stainless steel investigated using local probing techniques**
Örnek C., Engelberg D., Lyon S., Ladwein T.
Corrosion Management, sa.115, ss.9-11, 2013 (Scopus)

Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar

- I. **Assessment of the influence of hydrogen on the microstructure of TIG welded grade 2205 duplex stainless steel**
Reccagni P., Örnek C., Lu Q., Gittos M., Engelberg D.
European Corrosion Congress, EUROCORR 2016, Montpellier, Fransa, 11 - 15 Eylül 2016, cilt.1, ss.31-36
- II. **On the effect of local strain and stress on environment-assisted cracking susceptibility of grade 2205 duplex stainless steel**
Örnek C., Engelberg D.
European Corrosion Congress, EUROCORR 2015, Graz, Avusturya, 6 - 10 Eylül 2015, cilt.1, ss.72
- III. **Effect of "475°C embrittlement" on the corrosion behaviour of grade 2205 duplex stainless steel investigated using local probing techniques**

Örnek C., Engelberg D., Lyon S., Ladwein T.

European Corrosion Congress, EUROCORR 2013, Estoril, Portekiz, 1 - 05 Eylül 2013

Metrikler

Yayın: 51

Atıf (WoS): 784

Atıf (Scopus): 815

H-İndeks (WoS): 17

H-İndeks (Scopus): 17