

Prof. SERAP SAFRAN

Personal Information

Office Phone: [+90 312 216 8915](tel:+903122168915)

Email: safran@science.ankara.edu.tr

Other Email: safranserap@gmail.com

Web: <https://avesis.ankara.edu.tr/safran>

International Researcher IDs

ORCID: 0000-0001-5084-9369

ScopusID: 8833645400

Yoksis Researcher ID: 182628

Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Fizik (Dr), Turkey 2006 - 2010

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), Turkey 2002 - 2005

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, Turkey 1997 - 2002

Dissertations

Doctorate, Mgb2 süperiletken tellerde alternatif akım kaybı ve akı perçinleme mekanizmaları, Ankara University, Fen Bilimleri Enstitüsü, Fizik (Dr), 2010

Postgraduate, X-ışını kırınımı yöntemi ile bazı fosfaza-lariat eterlerin kristal yapı analizi, Hacettepe University, Fen Bilimleri Enstitüsü, Fizik Mühendisliği (YI) (Tezli), 2005

Research Areas

Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Natural Sciences

Academic Titles / Tasks

Professor, Ankara University, Fen Fakültesi, Fizik Bölümü, 2023 - Continues

Associate Professor, Ankara University, Fen Fakültesi, Fizik Bölümü, 2017 - 2023

Expert, Ankara University, Fen Fakültesi, Fizik Bölümü, 2010 - 2020

Research Assistant, Slovakia Bilimler Akademisi, Elektrik Mühendisliği Enstitüsü, 2009 - 2010

Research Assistant, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2002 - 2005

Academic and Administrative Experience

Head of the Department Bologna Commission, Ankara University, Nükleer Bilimler Enstitüsü, Medikal Fizik Bölümü, 2021 - Continues

Erasmus Program Department Coordinator, Ankara University, Nükleer Bilimler Enstitüsü, Nükleer Bilimler Enstitüsü,

2021 - Continues

Assistant Director of the Institute, Ankara University, Nükleer Bilimler Enstitüsü, 2021 - Continues

Enstitü Yönetim Kurulu Üyesi, Ankara University, Nükleer Bilimler Enstitüsü, Medikal Fizik Bölümü, 2021 - Continues

Deputy Head of Department, Ankara University, Fen Fakültesi, Fizik Bölümü, 2020 - Continues

Courses

Bilimsel, Kültürel Ve Sosyal Etkinlikler, Undergraduate, 2023 - 2024, 2022 - 2023

PHYSICS II, Undergraduate, 2022 - 2023

Katıhhal Fiziği II, Undergraduate, 2022 - 2023, 2021 - 2022

Uzmanlık Alan dersi, Doctorate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Fizik Lab. 1, Undergraduate, 2023 - 2024

Kristal Fiziği, Undergraduate, 2023 - 2024

Fizik, Undergraduate, 2023 - 2024, 2022 - 2023

İş Sağlığı ve Güvenliği 2, Undergraduate, 2022 - 2023, 2021 - 2022

İş Sağlığı Ve Güvenliği I, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022

Özel Konular, Undergraduate, 2021 - 2022

Fizik II, Undergraduate, 2021 - 2022

Medikal Cihazlarda Radyasyon Kullanımı, Postgraduate, 2022 - 2023

Uygulamalı Süper İletkenliğin Temelleri, Doctorate, 2020 - 2021

İleri Malzeme Fiziği, Doctorate, 2021 - 2022

Advising Theses

Safran S., Nötron dozimetrisinde MGB2 filtreli BEO dozimetrelerin kullanılabilirliğinin araştırılması, Postgraduate, B.KAPLAN(Student), 2023

Safran S., Öztürk Ö., Sol-jel yöntemi ile hazırlanan TB ve ZN katkılı YBCO-123 ve YBCO-358 süperiletkenlerinin incelenmesi, Doctorate, G.GÜDÜCÜ(Student), 2022

SAFRAN S., Preparation of europium (Eu) doped gadolinium lutetium oxide transparent ceramic scintillator, Postgraduate, Ö.ABAY(Student), 2021

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Assessment of superconducting and structural stability of advanced Y-123 and Y-358 ceramics with Tb/Y substitution in main matrices**
Güdücü G., Öztürk Ö., Kurnaz S., Tokeşer E. A., SAFRAN S., Yıldırım G.
Journal of Alloys and Compounds, vol.997, 2024 (SCI-Expanded)
- II. **Stabilization of durable tetragonal phase and barrier regions in y-123 ceramic systems with partial substitution mechanism**
Güdücü G., SAFRAN S., Kurnaz S., Tokeser E. A., Seydioglu T., Yildirim G., Ozturk O.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.35, no.19, 2024 (SCI-Expanded)
- III. **Evolution of fundamental mechanical properties with aliovalent Co/Cu partial substitution and preparation method for Y-123 system**
Ozturk O., Safran S., Ada H., Bulut F., Seydioglu T., Nefrow A. R. A., Akkurt B., Terzioglu C., Yildirim G.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.35, no.15, 2024 (SCI-Expanded)
- IV. **Examination of pairing mechanism, orbital hybridization, stabilization and magnetization behavior of Tb/Y and Zn/Cu partially substituted Y-123 Superconductors**
Ozturk O., Güdücü G., Safran S., Yildirim G.

JOURNAL OF ALLOYS AND COMPOUNDS, vol.924, 2022 (SCI-Expanded)

- V. **Comparison of the Dopant Effect and Sample Preparation Method on Y-123 Superconductors**
Ozturk O., Nefrow A. R. A., Bulut F., Kurnaz S., Safran S.
Journal of Superconductivity and Novel Magnetism, vol.34, no.11, pp.2821-2832, 2021 (SCI-Expanded)
- VI. **Characterization of the CoFe₂O₄/Cu displacement effect in the Y123 superconductor matrix on critical properties**
Safran S., Bulut F., Nefrow A. R. A., Ada H., Ozturk O.
Journal of Materials Science: Materials in Electronics, vol.31, no.22, pp.20578-20588, 2020 (SCI-Expanded)
- VII. **Critical current density and mechanical performance of MgB₂ superconductors prepared with different magnesium sources**
SAFRAN S.
CERAMICS INTERNATIONAL, vol.45, no.8, pp.10243-10249, 2019 (SCI-Expanded)
- VIII. **Experimental and theoretical approaches for electrical, magnetic, micromechanical, and structural characterization of BSCCO ceramic superconductors**
Safran S., Ozturk H., Bulut F., Ozturk O.
Ceramics International, vol.44, no.10, pp.11674-11681, 2018 (SCI-Expanded)
- IX. **Effects of carbon-encapsulated nano boron addition on superconducting parameters of BSCCO**
Ozturk H., SAFRAN S.
JOURNAL OF ALLOYS AND COMPOUNDS, vol.731, pp.831-838, 2018 (SCI-Expanded)
- X. **Test of 6-kVA Three-Phase Flux Transfer-Type Current-Limiting Transformer**
Ertekin E., Gecer S., Yanmaz E., Safran S., Kosa J., Kilicarslan E. S., Kilic A., Amemiya N., Gencer A.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.30, no.12, pp.3549-3553, 2017 (SCI-Expanded)
- XI. **The influence of re-pelletization and heat treatment on physical, superconducting, magnetic and micro-mechanical properties of bulk BSCCO samples prepared by ammonium nitrate precipitation method**
Safran S., Ozturk H., Bulut F., Ozturk O.
Ceramics International, vol.43, no.17, pp.15586-15592, 2017 (SCI-Expanded)
- XII. **AC loss characterization of single pancake BSCCO coils by measured different methods**
SAFRAN S., Souc J., Gomory F.
PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS, vol.541, pp.45-49, 2017 (SCI-Expanded)
- XIII. **Effect of re-pelletization on structural, mechanical and superconducting properties of BSCCO superconductors**
Safran S., Kilic A., Ozturk O.
Journal of Materials Science: Materials in Electronics, vol.28, no.2, pp.1799-1803, 2017 (SCI-Expanded)
- XIV. **Switching and Decoupling Effects in a Single-Phase Transformer Using Extra DC Current**
Gecer S., Ertekin E., Yanmaz E., Kosa J., Safran S., Ozguzel R., Kilicarslan E. S., Kilic A., Gencer A.
IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY, vol.26, no.3, 2016 (SCI-Expanded)
- XV. **Ac Susceptibility Measurements and Mechanical Performance of Bulk MgB₂**
Ozturk O., Asikuzun E., Kaya S., Erdem M., Safran S., Kilic A., Terzioglu C.
Journal of Superconductivity and Novel Magnetism, vol.28, no.7, pp.1943-1952, 2015 (SCI-Expanded)
- XVI. **Superconducting and mechanical properties of the bulk Bi(pb)SCCO system prepared via solid state and ammonium nitrate precipitation methods**
Safran S., Kilicarslan E., Ozturk H., Alp M., Akdogan M., Asikuzun E., Ozturk O., Kilic A.
Physica B: Condensed Matter, vol.472, pp.34-40, 2015 (SCI-Expanded)
- XVII. **Mechanical, microstructural and magnetic properties of the bulk BSCCO superconductor prepared by two different methods**
Safran S., Kilic A., Kilicarslan E., Ozturk H., Alp M., Asikuzun E., Ozturk O.
Journal of Materials Science: Materials in Electronics, vol.26, no.4, pp.2622-2628, 2015 (SCI-Expanded)
- XVIII. **The role of various boron precursor on superconducting properties of MgB₂/Fe**
Safran S., Kilicarslan E., Kilic A., Gencer A.
CRYOGENICS, vol.63, pp.133-137, 2014 (SCI-Expanded)

- XIX. **Influence of different boron precursors on superconducting and mechanical properties of MgB₂**
Safran S., Kilic A., Asikuzun E., Kilicarslan E., Ozturk O., Gencer A.
JOURNAL OF MATERIALS SCIENCE-MATERIALS IN ELECTRONICS, vol.25, no.6, pp.2737-2747, 2014 (SCI-Expanded)
- XX. **Experimentally Determined Magnetization ac Losses of Mono and Multifilamentary MgB₂ Wires**
Safran S., Souc J., Goemoery F., Kovac P., Gencer A.
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.26, no.5, pp.1557-1561, 2013 (SCI-Expanded)
- XXI. **Microstructural and superconducting properties of C₆H₆ added bulk MgB₂ superconductor**
Babaoglu M. G., SAFRAN S., Çiçek Ö., Agl H., Ertekin E., Hossain M. A., Yanmaz E., GENÇER A.
Journal of Magnetism and Magnetic Materials, vol.324, no.21, pp.3455-3459, 2012 (SCI-Expanded)
- XXII. **AC losses of monofilament Ti-clad MgB₂ wire**
Safran S., Šouc J., Rostila L., Brisigotti S., Gömöry F., GENÇER A.
Journal of Superconductivity and Novel Magnetism, vol.24, no.1-2, pp.437-441, 2011 (SCI-Expanded)
- XXIII. **AC loss in stacks of Bi-2223/Ag tapes modified with ferromagnetic covers at the edges**
Safran S., Gömöry F., GENÇER A.
Superconductor Science and Technology, vol.23, no.10, 2010 (SCI-Expanded)
- XXIV. **Critical current and AC loss of DI-BSCCO tape modified by the deposition of ferromagnetic layer on edges**
SAFRAN S., Vojenciak M., GENÇER A., Gömöry F.
IEEE Transactions on Applied Superconductivity, vol.20, no.5, pp.2294-2300, 2010 (SCI-Expanded)
- XXV. **Intramolecular hydrogen bonding and tautomerism in Schiff bases: Part VI. Syntheses and structural investigation of salicylaldimine and naphthaldimine derivatives**
Bilge S., Kilic Z., HAYVALI Z., HÖKELEK T., Safran S.
Journal of Chemical Sciences, vol.121, no.6, pp.989-1001, 2009 (SCI-Expanded)
- XXVI. **Phosphorus-nitrogen compounds: New spiro-cyclic phosphazene derivatives. Structure of 4',4',6',6'-tetrachloro-3,4-dihydro-3-(3-methylpyridin-2-yl)-spiro-[1,3,2-benzoxazaphosphinine-2,2'-(2 lambda(5),4 lambda(5),6 lambda(5)-cyclotriphosphazene)]. Part XII**
Dal H., Safran S., Suzen Y., Hokelek T., Kilic Z.
JOURNAL OF MOLECULAR STRUCTURE, vol.753, no.1-3, pp.84-91, 2005 (SCI-Expanded)
- XXVII. **Phosphorus-nitrogen compounds: Novel fully substituted spiro-cyclophosphazenic lariat (PNP-pivot) ether derivatives. Structures of 4,4,6,6-tetrapyrrolidino-2,2-[3-oxa-1,5-pentane dioxy bis(2-phenylamino)]cyclo-2 lambda(5),4 lambda(5),6 lambda(5)-triphosphazene and 4,4,6,6-tetrapyrrolidino-2,2-[1,2-xylene dioxy bis(2-phenylamino)]cyclo-2 lambda(5), 4 lambda(5),6 lambda(5)-trinosphazene. Part XI**
Bilge S., Ozguc B., Safran S., Demiriz S., Isler H., Hayvali M., Kilic Z., Hokelek T.
JOURNAL OF MOLECULAR STRUCTURE, vol.748, no.1-3, pp.101-109, 2005 (SCI-Expanded)

Articles Published in Other Journals

- I. **The Effect of Sintering Number on Crystallographic and Microhardness Properties of MgB₂ Samples Obtained by Mixing Ready MgB₂ Powders and Mg and B Powders**
KAYA N., SAFRAN S.
Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.10, no.2, pp.273-285, 2022 (Peer-Reviewed Journal)
- II. **Characteristics of ZnO:Er Nano Thin Films Produced Different Thickness Using Different Solvent By Sol-Gel Method**
Öztürk Ö., Aşıkuzun E., Hacıoğlu Z. B., Safran S.
JOURNAL OF POLYTECHNIC-POLITEKNİK DERGISI, vol.25, no.1, pp.37-45, 2022 (Peer-Reviewed Journal)
- III. **Karbon Kaplı Nano-Bor Kullanılarak Hazırlanan Süperiletken MgB₂ Numunelerde Magnezyum Kaynağının Yapısal ve Elektriksel Özellikler Üzerindeki Rolü**

Refereed Congress / Symposium Publications in Proceedings

- I. **INFLUENCE OF HEAT TREATMENT TIME ON ELECTRICAL AND STRUCTURAL PROPERTIES OF MGB₂ SUPERCONDUCTING WIRE PRODUCED FROM FUNCTIONALLY GRADED MATERIAL**
Bilgin S., Safran S., Çinici H.
6 TH ANKARA INTERNATIONAL CONGRESS ON SCIENTIFIC RESEARCH, Ankara, Turkey, 1 - 03 April 2022, pp.1708-1713
- II. **MgB₂ superconductors produced by Encapsulated Nano Boron with two different magnesium sources**
SAFRAN S., ÖZTÜRK Ö.
6th International Conference on Superconductivity and Magnetism- ICSM2018, 29 April - 04 May 2018
- III. **The Effect of Production Methods on Structural and Mechanical Properties of BSSCO Ceramic Superconductor**
SAFRAN S., ozturk h., Bulut F., ÖZTÜRK Ö.
6th International Conference on Superconductivity and Magnetism- ICSM2018, 29 April - 04 May 2018
- IV. **A Comparative Study of Bulk BSCCO High Temperature Superconductor Fabricated by Ammonium Nitrate and Solid State Reaction Methods**
SAFRAN S., öztürk H., Bulut F., ÖZTÜRK Ö.
Topical Workshop: Emerging Trends in Applications and Multiphysics Simulations in Superconductivity 2018 (ETAMSS18), 22 - 24 February 2018
- V. **Superconducting properties of Ag and Ag Cu Alloy Sheathed Bi 2223 Wires**
SAFRAN S., KİLİCARSLAN E., OZTURK H., ALP M., GENÇER A., KILIÇ A.
5th International Conference on Superconductivity and Magnetism 2016, 24 April - 30 June 2016
- VI. **DEVELOPING THE PHYSICAL PROPERTIES OF Bi Pb 2223 PHASE BY CARBON ENCAPSULATED BORON 98 B 2 C NANO PARTICLES ADDITION**
ÖZTÜRK H., SAFRAN S., KILIÇ A.
5th International Conference on Superconductivity and Magnetism, 24 - 30 April 2016
- VII. **Effect of Pressing on Mechanical and Superconducting Properties of Bi 2223 Bulks**
KILIÇ A., SAFRAN S., AŞIKUZUN E., ÖZTÜRK Ö.
The 8th Asian Conference on Applied Superconductivity and Cryogenics(ACASC 2015), 22 - 25 November 2015
- VIII. **Experimental Study of AC loss in Single Pancake BSCCO Coils**
SAFRAN S., KILIÇ A., JANO S., GENÇER A., FEDOR G.
8th Asian Conference on Applied Superconductivity and Cryogenics, 22 - 24 November 2015
- IX. **Recent Research Efforts in Turkey for Fault Current Limitation by Transformers via Flux Transfer**
GENÇER A., ertekin e., geçer s., kosa j., SAFRAN S., KILIÇ A.
The 8th Asian Conference on Applied Superconductivity and Cryogenics(ACASC 2015), 22 - 25 November 2015
- X. **Recent Research Effrots in Turkey for Fault Current Limitation by Transformers via Flux Transfer**
GENÇER A., ertekin e., geçer s., kosa j., SAFRAN S., KILIÇ A.
The 8th Asian Conference on Applied Superconductivity and Cryogenics(ACASC 2015), 22 - 25 November 2015
- XI. **AC Loss Measurement of Pancake BSCCO Coils**
SAFRAN S., KILIÇ A., jano s., GENÇER A., fedor g.
International Workshop on Cooling-systemfor HTS Applications, 14 - 16 October 2015
- XII. **Cooling and Operation of Transformers Based on Flux Transfer**
GENÇER A., JANOS K., ERCAN E., YANMAZ E., SAHURE G., SAFRAN S., Simsek Kilicarslan E., KILIÇ A.
International Workshop on Cooling System for HTS Applications (IWC-HTS), 14 - 16 October 2015
- XIII. **Test of 6 kVA 3 Phase Flux Transfer Type Current Limiting Transformer**
ercan e., janos k., YANMAZ E., sahure g., SAFRAN S., ebru ş. k., KILIÇ A., GENÇER A.

- 12 th European Conference on Applied Superconductivity, 6 - 10 September 2015
- XIV. **Effects of Nano Boron 98 B 2 C Addition on Superconducting Properties BSCCO**
Hamit Ö., SAFRAN S., KILIÇ A., GENÇER A.
12 th European Conference on Applied Superconductivity, 6 - 10 September 2015
- XV. **Switching and Decoupling Effects in a Single Phase Transformer using Extra DC current**
sahure g., janos k., ercan e., YANMAZ E., SAFRAN S., ebru ş. k., KILIÇ A., KILIÇ A., GENÇER A., GENÇER A.
12 th European Conference on Applied Superconductivity, 6 - 10 September 2015
- XVI. **Effect of Pressing on Structural Mechanical and Superconducting Properties of BSCCO Bulk Materials**
SAFRAN S., KILIÇ A., AŞIKUZUN E., ÖZTÜRK Ö.
12 th European Conference on Applied Superconductivity, 6 - 10 September 2015
- XVII. **Test of Transformers Based on Flux Transfer**
GENÇER A., ercan e., sahare g., janos k., YANMAZ E., ebru k., SAFRAN S., KILIÇ A.
Donostia International Workshop on Energy, Materials, and Nanotechnology (DINEMN), 1 - 04 September 2015
- XVIII. **Evaluation of 6 kVA 3 Phase Current Limiting Transformer Operating by Flux Transfer**
GENÇER A., ERTEKİN E., JANOS K., GEÇER S., SAFRAN S., KILIÇARSLAN E., KILIÇ A., YANMAZ E.
The International Conference M2S HTSC 2015, 23 - 28 August 2015

Supported Projects

- Safran S., Coşkun E., Seçkin A., Öznel Y., Koralay H., Sönmez K., Gençer A., TÜBİTAK Project, Yüksek Performanslı Magnezyum Diborür Süperiletken Malzemeler, 2024 - 2027
- Safran S., Onur M. R., Karataş Ö., TÜBİTAK Project, Kuru jelatin biyomalzemesinin radyasyon dozimetresi olarak kullanılabilirliğinin araştırılması ve optimizasyonu, 2024 - 2026
- Safran S., Yücel H., Aşlar E., Other International Funding Programs, Enhancing the Capacities of Educational Institutions for the Sustainable use of Nuclear Technologies, 2022 - 2025
- Safran S., Aksoy C., TÜBİTAK - AB COST Project, High-Temperature Superconductivity for Accelerating the Energy Transition (Hi-SCALE), 2020 - 2024
- Safran S., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Ulusal Süperiletkenlik Araştırma Laboratuvarı Kalkınma Bakanlığı projesi, 2010 - 2024
- Safran S., Gençer A., TÜBİTAK Project, Sfcl Özellikli Dağıtım Transformatörü (Sdtr), 2017 - 2021
- SAFRAN S., TÜBİTAK Project, Hatalı akım sınırlayıcı için uygun nano yapılı süperiletken külçe MgB₂ ve eriyik Y Ba Cu O halka numunelerin yüksek basınç ve sıcaklık altında üretimi manyetik ve mekanik karakterizasyonu, 2014 - 2016
- SAFRAN S., TÜBİTAK Project, Farklı Kılıflı Bi 2223 Süperiletken Tel Ve Şeritlerden Bobin Yapımı Ve Transport Alternatif Akım Kayıplarının İncelenmesi, 2013 - 2015
- Safran S., Gençer A., Project Supported by Higher Education Institutions, Çok Damarlı MgB₂ Süperiletken Üretimi Nano boyutta Katkılama Yöntemi ile Özelliklerinin İyileştirilmesi ve Fiziksel Karakterizasyonu, 2008 - 2012
- SAFRAN S., TÜBİTAK Project, Bor tabanlı ve MgB₂ tabanlı tellerin üretimi hazırlanması ve Karakterizasyonu BOREN projesi, 2006 - 2008

Patent

- Gençer A., Safran S., Bir Süperiletken Koruma Birimi, Patent, CHAPTER G Physics, The Invention Registration Number: TR 2022 004375 B , Standard Registration, 2023

Activities in Scientific Journals

- Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, Assistant Editor/Section Editor, 2022 - Continues

Metrics

Publication: 50

Citation (WoS): 193

Citation (Scopus): 223

H-Index (WoS): 8

H-Index (Scopus): 9

Artistic Activity

SAFRAN S., 4007 Bilim Őenliđi Destekleme Programı, October 2017