

# **Prof. SÜLEYMAN BOLAT**

## **Personal Information**

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## **International Researcher IDs**

ORCID: 0000-0002-4309-9878

Publons / Web Of Science ResearcherID: AAK-3236-2020

ScopusID: 6507502796

Yoksis Researcher ID: 21516

## **Education**

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, Turkey 1996 - 2003

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, Turkey 1992 - 1996

Undergraduate, Karadeniz Technical University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1988 - 1992

## **Foreign Languages**

English, B2 Upper Intermediate

## **Dissertations**

Doctorate, YBa<sub>2</sub>Cu<sub>3</sub>-xRE<sub>x</sub>O<sub>y</sub> (x=0, 0,3, 0,5, 0,7, 1,0 ve RE=Yb, Sm, Nd) Süperiletkenlerinin Yapısal ve Fiziksel Özelliklerinin İncelenmesi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, 2003

Postgraduate, Gümüş Katkısının Bi(Pb)-Sr-Ca-Cu-O Süperiletkenine Etkisi, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Fizik Anabilimdalı, 1996

## **Research Areas**

Physics, Interdisciplinary Physics and Related Science and Technology Areas, Materials Science, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties, Superconductivity, Natural Sciences

## **Academic Positions**

Professor, Karadeniz Technical University, Fen Fakültesi, Fizik, 2021 - Continues

Associate Professor, Karadeniz Technical University, Fen Fakültesi, Fizik, 2013 - 2021

Assistant Professor, Karadeniz Technical University, Fen Fakültesi, Fizik, 2010 - 2013

Assistant Professor, Karadeniz Technical University, Fen Fakültesi, Fizik, 2004 - 2010

Lecturer PhD, Karadeniz Technical University, Fen Fakültesi, Fizik, 2003 - 2004

Lecturer, Karadeniz Technical University, Fen Fakültesi, Fizik, 1996 - 2003

Research Assistant, Karadeniz Technical University, Fen Bilimleri Enstitüsü, -, 1993 - 1996

## Academic and Administrative Experience

Deputy Head of Department, Karadeniz Technical University, Fen Fakültesi, Fizik, 2021 - Continues

## Courses

### Doctorate

Sm<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>y</sub> Süperiletkenlerinin Manyetik Özellikleri, Doctorate, 2012 - 2013

Nd<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>y</sub> Süperiletkenlerinin Yapısal Özellikleri, Doctorate, 2012 - 2013

Süperiletken Numune Hazırlama Tekniği, Doctorate, 2011 - 2012

Süperiletkenlerin Kaldırma Kuvveti, Doctorate, 2011 - 2012

Sm<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>y</sub> Kompozisyonunun Yapısal Özellikleri, Doctorate, 2011 - 2012

Katkılı YBCO(358) Süperiletkeninin Özellikleri, Doctorate, 2011 - 2012

YBCO(358) Süperiletkeninin Yapısal Özelliklerinin İncelenmesi, Doctorate, 2010 - 2011

YBCO(358) Süperiletkeninin Manyetik Özelliklerinin İncelenmesi, Doctorate, 2010 - 2011

Nadir Toprak Elementli Yüksek Sıcaklık Süperiletkenleri, Doctorate, 2009 - 2010

Süperiletkenlik Oluşum Kesri, Doctorate, 2008 - 2009

Süperiletkenlerde Tersinirlik ve Tersinmezlik, Doctorate, 2007 - 2008

### Postgraduate

Süperiletkenlerin Bazı Parametrelerin İncelenmesi, Postgraduate, 2012 - 2013

Süperiletkenlerde Tersinirlik ve Tersinmezlik, Postgraduate, 2012 - 2013

Yüksek Sıcaklık Süperiletkenlerinin Üretilimi ve Karakterizasyonu, Postgraduate, 2011 - 2012, 2009 - 2010, 2008 - 2009

Süperiletkenlerin Manyetik Alinganlığı, Postgraduate, 2011 - 2012, 2008 - 2009

### Undergraduate

FİZİK I, Undergraduate, 2013 - 2014, 2007 - 2008

PHYSICS I (B), Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011

PHYSICS II (B), Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011

PHYSICS II (A), Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010

FİZİK II (B), Undergraduate, 2013 - 2014, 2011 - 2012

PHYSICS II, Undergraduate, 2013 - 2014

FİZİK II, Undergraduate, 2013 - 2014

FİZİK II, Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011

PHYSICS I, Undergraduate, 2013 - 2014

PHYSICS I (A), Undergraduate, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011

FİZİK I, Undergraduate, 2012 - 2013, 2010 - 2011

FİZİK II, Undergraduate, 2012 - 2013, 2010 - 2011

FİZİK II (A), Undergraduate, 2011 - 2012

PHYSICS II, Undergraduate, 2011 - 2012, 2010 - 2011

FİZİK II, Undergraduate, 2011 - 2012

FİZİK I, Undergraduate, 2011 - 2012

PHYSICS I, Undergraduate, 2011 - 2012, 2010 - 2011

FİZİK II (C), Undergraduate, 2010 - 2011

ELEKTRİK ve MANYETİZMA, Undergraduate, 2010 - 2011, 2009 - 2010, 2008 - 2009

FİZİK I (C), Undergraduate, 2010 - 2011

ELEKTRİK ve MANYETİZMA LAB. (A), Undergraduate, 2009 - 2010

FİZİK, Undergraduate, 2009 - 2010, 2008 - 2009, 2007 - 2008

ELEKTRİK ve MANYETİZMA LAB., Undergraduate, 2009 - 2010  
ELEKTRİK ve MANYETİZMA LAB. (B), Undergraduate, 2009 - 2010  
ELEKTRİK ve MANYETİZMA LAB. (B), Undergraduate, 2008 - 2009  
FİZİK II, Undergraduate, 2008 - 2009  
ELEKTROMANYETİK TEORİ I, Undergraduate, 2008 - 2009  
FİZİK I, Undergraduate, 2008 - 2009  
GEOMETRİK OPTİK, Undergraduate, 2008 - 2009  
GEOMETRİK OPTİK, Undergraduate, 2008 - 2009, 2007 - 2008  
ELEKTRİK ve MANYETİZMA LAB. (A), Undergraduate, 2008 - 2009  
FİZİK I, Undergraduate, 2008 - 2009  
MEKANİK LAB. (A), Undergraduate, 2008 - 2009, 2007 - 2008  
MEKANİK LAB. (B), Undergraduate, 2008 - 2009, 2007 - 2008  
FİZİK IV (B), Undergraduate, 2007 - 2008  
ÇEVRE FİZİĞİ, Undergraduate, 2007 - 2008  
FİZİK I (B), Undergraduate, 2007 - 2008  
FİZİK IV (A), Undergraduate, 2007 - 2008  
BİOFİZİK, Undergraduate, 2007 - 2008

## Supervised Theses

BOLAT S., Yeni (RE)3Ba5Cu8Oy (RE:Y, Nd, Sm, Gd) Bulk Süperiletkenlerinin Üretimi ve Karakterizasyonu, Doctorate, S.KÜTÜK(Student), 2014  
BOLAT S., Farklı Eritme Yöntemleriyle Üretilen YBa2Cu3O<sub>7-x</sub> Süperiletkenlerin Yapısal ve Manyetik Özelliklerinin İncelenmesi, Postgraduate, S.KÜTÜK(Student), 2008

## Jury Memberships

Doctorate, Doctorate, Atatürk Üniversitesi, June, 2016  
Competition, TÜBİTAK Ortaöğretim Proje Yarışması Değerlendirme Jürisi, TÜBİTAK, April, 2016  
Competition, TÜBİTAK Ortaöğretim Proje Yarışması Değerlendirme Jürisi, TÜBİTAK, April, 2014  
Doctorate, Doctorate, Karadeniz Teknik Üniversitesi, June, 2006

## Journal articles indexed in SCI, SSCI, and AHCI

- I. **Amorphous Silicon Nanoparticles and Silicon Nanoglasses from Ab Initio Simulations**  
BOLAT S., Durandurdu M.  
Silicon, vol.16, no.10, pp.4263-4271, 2024 (SCI-Expanded)
- II. **Analysis of structural, electrical, and levitation properties of (RE: Nd, Sm, Gd) BCO-358 superconducting ceramics prepared by a modified MPMG technique**  
KÜTÜK S., BOLAT S.  
JOURNAL OF MATERIALS SCIENCE, vol.57, no.2, pp.1198-1214, 2022 (SCI-Expanded)
- III. **Amorphous boron phosphide: An ab initio investigation**  
BOLAT S., Durandurdu M.  
JOURNAL OF NON-CRYSTALLINE SOLIDS, vol.570, 2021 (SCI-Expanded)
- IV. **Amorphous zircon at high pressure**  
BOLAT S., DURANDURDU M.  
Journal of Physics and Chemistry of Solids, vol.153, 2021 (SCI-Expanded)
- V. **Very low density amorphous phase of zircon**

- BOLAT S., DURANDURDU M.  
JOURNAL OF NON-CRYSTALLINE SOLIDS, vol.513, pp.137-143, 2019 (SCI-Expanded)
- VI. An investigation of magnetoresistivity properties of an Y<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>y</sub> bulk superconductor  
Kutuk S., Bolat S., Terzioglu C., Altintas S. P.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.650, pp.159-164, 2015 (SCI-Expanded)
- VII. Effect of Magnetic Flux Distribution and Magnetic Powder Addition on the Magnetic Levitation Force of Sm123 Superconductors  
Abdioglu M., ÖZTÜRK K., Kutuk S., BOLAT S., Yanmaz E.  
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.25, no.4, pp.923-929, 2012 (SCI-Expanded)
- VIII. Fabrication of the New Y<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>y</sub> Superconductor Using Melt-Powder-Melt-Growth Method and Comparison with YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub>  
BOLAT S., Kutuk S.  
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.25, no.4, pp.731-738, 2012 (SCI-Expanded)
- IX. Comparative study of critical current density, pinning force and levitation force behavior in Yb<sub>211</sub>doped-Sm123 bulk superconductors  
ÖZTÜRK K., AKBULUT S., Kutuk S., BOLAT S., Celik S., Basoglu M.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.516, pp.167-171, 2012 (SCI-Expanded)
- X. Magnetization Anisotropy in YBCO Superconductors Prepared MPMG Method  
Celebi S., Kutuk S., BOLAT S., ÖZTÜRK A.  
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.25, no.2, pp.267-271, 2012 (SCI-Expanded)
- XI. Microstructure Study at Different Thicknesses of Disc-Shaped YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Prepared by FQMG Method  
Kutuk S., BOLAT S., ÖZTÜRK K., Akbulut S., Yanmaz E.  
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.24, pp.471-474, 2011 (SCI-Expanded)
- XII. Levitation Force Density on Different Thicknesses of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Bulk Superconductor Fabricated by FQMG Process  
Kutuk S., BOLAT S., ÖZTÜRK K., Akbulut S., ÇAKIR O.  
JOURNAL OF SUPERCONDUCTIVITY AND NOVEL MAGNETISM, vol.24, pp.475-479, 2011 (SCI-Expanded)
- XIII. Comparison of levitation force relative to thickness of disk shaped YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> prepared by MPMG and FQMG processes  
Kutuk S., BOLAT S., Basoglu M., ÖZTÜRK K.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.488, no.1, pp.425-429, 2009 (SCI-Expanded)
- XIV. Structural, electrical and optical properties of Cd<sub>1-x</sub>Zn<sub>x</sub>O thin films and alloying effects on K beta/K alpha intensity ratios  
BACAKSIZ E., BOLAT S., Cevik U., DOGAN O., ABAY B.  
X-RAY SPECTROMETRY, vol.35, no.3, pp.165-168, 2006 (SCI-Expanded)
- XV. The effect of Ag-doping on the magnetic behaviour of Bi-(Pb)-Sr-Ca-Cu-O ceramic superconductors  
Bolat S., Celebi S., Gencer A., Comert H., Yanmaz E.  
JOURNAL OF ALLOYS AND COMPOUNDS, vol.269, pp.1-6, 1998 (SCI-Expanded)

## Articles Published in Other Journals

- I. Properties of Bi<sub>1.4</sub>Pb<sub>0.4</sub>Sr<sub>2</sub>Ca<sub>3</sub>Cu<sub>4</sub>O<sub>y</sub> (2234) Oxides Prepared by S.S.R. Method  
BOLAT S.  
TURKISH JOURNAL OF PHYSICS, vol.24, pp.129-135, 2000 (Scopus)

## Papers Presented at Peer-Reviewed Scientific Conferences

- I. Levitation Force of (RE)BCO-358 Bulk Superconductors

- Kutuk S., BOLAT S.  
34th International Physics Congress of the Turkish-Physical-Society (TPS), Konacik, Turkey, 5 - 09 September 2018, vol.2042, (Full Text)
- II. **Effect of Nd-Fe-B Magnetic Powder Addition on the Magnetic Levitation Force of Sm123 Superconductors**  
BOLAT S., Kütük S., Abdioğlu M., Erdem Ö., Çelik Ş.  
5th National Superconductivity Symposium, İzmir, Turkey, 3 - 06 July 2011, pp.16, (Summary Text)
- III. **Superconducting Studies in the New Y<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>x</sub> Bulk System**  
BOLAT S., Kütük S., Abdioğlu M., Öztürk K., Başoğlu M.  
5th National Superconductivity Symposium, İzmir, Turkey, 3 - 06 July 2011, pp.28, (Summary Text)
- IV. **Superconducting Studies in the New Y<sub>3</sub>Ba<sub>5</sub>Cu<sub>8</sub>O<sub>x</sub> Bulk System**  
Kütük S., BOLAT S., Abdioğlu M., Öztürk K., Başoğlu M.  
5th National Superconductivity Symposium, İzmir, Turkey, 3 - 06 July 2011, pp.28, (Summary Text)
- V. **Levitation Force Properties in Different Cooling Conditions of (Sm123)<sub>1-x</sub>(Yb211)<sub>x</sub> Bulk Superconductor Fabricated by MPMG Process**  
BOLAT S.  
2nd International Conference on Superconductivity and Magnetism, Antalya, Turkey, 25 - 30 May 2010, pp.262, (Summary Text)
- VI. **Effect of Yb211 Doping on the Critical Current JC and Susceptibility of (Sm123)<sub>1-x</sub>(Yb211)<sub>x</sub> Bulk Superconductor**  
BOLAT S.  
2nd International Conference on Superconductivity and Magnetism, Antalya, Turkey, 25 - 30 May 2010, pp.256, (Summary Text)
- VII. **Levitation Force Density in Different Thicknesses of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Bulk Superconductor Fabricated by FQMG Process**  
KÜTÜK S., BOLAT S., ÖZTÜRK K., AKBULUT Ş., ÇAKIR O.  
Superconductivity and Novel Magnetism, Antalya, Turkey, 1 - 03 April 2010, vol.2, pp.25-30, (Full Text)
- VIII. **Flux Behavior in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Produced Melt-Powder-Melt-Growth (MPMG) and Flame-Quench-Melt-Growth (FQMG) Processes**  
BOLAT S.  
International Conference on Superconductivity and Magnetism, Antalya, Turkey, 25 - 29 August 2009, pp.311, (Summary Text)
- IX. **Calculation of Critical Current Density from Magnetic Levitation Force for YBa<sub>2</sub>Cu<sub>3-x</sub>RE<sub>x</sub>O<sub>y</sub> (RE=Yb, Sm, Nd) Superconductors**  
BOLAT S.  
International Conference on Superconductivity and Magnetism, Antalya, Turkey, 25 - 29 August 2009, pp.314, (Summary Text)
- X. **The Range of Optimum Temperature for Levitation Force per Unit Volume in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Fabricated by MPMG Process**  
BOLAT S.  
Fourth National Superconductors Symposium, Trabzon, Turkey, 10 - 13 August 2009, pp.56, (Summary Text)
- XI. **The Magnetic Levitation Force Properties of (Sm-123)<sub>1-x</sub>Yb(211)<sub>x</sub> Bulk Superconductor**  
BOLAT S., ÖZTÜRK K.  
Fourth National Superconductors Symposium, Trabzon, Turkey, 10 - 13 August 2009, pp.25, (Summary Text)
- XII. **BiPbSrCaCuO Süperiletken Numunesinin Farklı ? ve X-Işınlarında Kütle Soğurma Katsayılarının Ölçülmesi**  
BOLAT S.  
III. Ulusal Yüksek Sıcaklık Süperiletkenler Sempozyumu, Bolu, Turkey, 20 June - 22 May 2005, pp.108, (Full Text)
- XIII. **Gümüş Katkısının Bi(Pb)-Sr-Ca-Cu-O Süperiletkenlerine Etkisi**  
BOLAT S.  
TFD 16. Ulusal Fizik Kongresi, Balıkesir, Turkey, 26 - 29 August 1996, pp.77, (Summary Text)

- XIV. **Bi<sub>1.4</sub>Pb<sub>0.4</sub>Sr<sub>2</sub>Ca<sub>3</sub>Cu<sub>4</sub>O<sub>y</sub> Süperiletkenlerine Gümüşün Etkisinin İncelenmesi**  
BOLAT S.  
TFD 15. Ulusal Fizik Kongresi, Antalya, Turkey, 26 - 29 September 1995, pp.119, (Summary Text)
- XV. **Petek Tipi Bi(Pb)-Sr-Ca-Cu-O Bileşığının Bazı Fiziksel Özelliklerinin İncelenmesi**  
BOLAT S.  
TFD 15. Ulusal Fizik Kongresi, Antalya, Turkey, 26 - 29 September 1995, pp.116, (Summary Text)

## Funded Projects

BOLAT S., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Ulusal Süperiletkenlik Araştırma Merkez Laboratuvarı (USAML), 2010 - Continues

BAYRAM T., YILMAZ A. H., APAYDIN G., BOLAT S., Project Supported by Higher Education Institutions, Yenilikçi Yaklaşımla Nükleer ve Modern Fizik Lisans Laboratuvarlarının Geliştirilmesi, 2021 - 2024

Bolat S., Project Supported by Higher Education Institutions, Katkılanmış YBCO Süperiletkeninin Bazi Manyetik Özelliklerinin İncelenmesi, 2010 - 2011

Bolat S., Project Supported by Higher Education Institutions, YBCO (211) Süperiletken Pota İçerisinde Süperiletkenlerin Kristal Büyütme Yöntemi İle Üretilimi Ve Karakterizasyonu, 2005 - 2007

Bolat S., Yanmaz E., Project Supported by Higher Education Institutions, Top Seeding Metoduyla İri Taneli YBCO Tek Kristalinin Üretilimi ve Karakterizasyonu, 2000 - 2002

Bolat S., Yanmaz E., Project Supported by Higher Education Institutions, Bi-Sr-Ca-Cu-O Amorf Numunelerin Elektrik Alanı Yardımıyla Kristalize Edilmesi Ve Süperiletkenlik Özelliklerinin İncelenmesi, 1996 - 1998

## Peer Reviews in Scientific Publications

Journal of Superconductivity and Novel Magnetism, SCI Journal, June 2014  
Materials Science and Engineering B, SCI Journal, October 2011

## Scientific Project Refereeing

Project Supported by Higher Education Institutions, BAP Research Project, August 2021

## Scientific Consultations

MEB Dursun Ali Kurt AİHL (Proje Okulu), Scientific Consultancy, Karadeniz Technical University, Fen Fakültesi, Fizik, Turkey, 2017 - Continues

## Metrics

Publication: 31  
Citation (WoS): 98  
Citation (Scopus): 108  
H-Index (WoS): 6  
H-Index (Scopus): 7