

Assoc. Prof. FATMA KOÇAK

Personal Information

Office Phone: [+90 224 294 1710](tel:+902242941710)

Email: fkocak@uludag.edu.tr

Web: <https://avesis.uludag.edu.tr/fkocak>

International Researcher IDs

ScholarID: znUKtEoAAAAJ

ORCID: 0000-0002-4756-9988

ScopusID: 15843834900

Yoksis Researcher ID: 157815

Education Information

Doctorate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Fizik (Dr), Turkey 2005 - 2010

Postgraduate, Bursa Uludağ University, FEN BİLİMLERİ ENSTİTÜSÜ, Fizik (Yıl) (Tezli), Turkey 2001 - 2004

Undergraduate, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, Fizik Bölümü, Turkey 1997 - 2001

Research Areas

Experimental High Energy Physics Studies, Particle Detectors and Calorimeters, Physics Analysis and Simulation Studies,

Experimental Methods of Particle and Nuclear Physics

Academic Titles / Tasks

Associate Professor, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2022 - Continues

Assistant Professor, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2018 - 2022

Research Assistant, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2002 - 2018

Academic and Administrative Experience

Deputy Head of Department, Bursa Uludağ University, FEN-EDEBİYAT FAKÜLTESİ, FİZİK, 2018 - 2022

Courses

FZK1072 Temel Fizik II (İnşaat Mühendisliği Bölümü), Undergraduate, 2017 - 2018

FZK1085BTK FİZİK (Ziraat Fak-Bitki Koruma Bölümü), Undergraduate, 2017 - 2018

FZK5608 Yüksek Enerji Benzetişim Teknikleri I, Postgraduate, 2017 - 2018

FZK 1071 Temel Fizik I (İnşaat Mühendisliği Bölümü), Undergraduate, 2017 - 2018

Advising Theses

Koçak F., Gelecek dairesel elektron-hadron çarpıştırıcı (FCC-eh) detektörü için elektromagnetik kalorimetre tasarımları çalışması, Postgraduate, Z.HASHIMI(Student), 2023

Koçak F., Position resolution in crystal calorimeter, Postgraduate, M.FAKHRELDIN(Student), 2021

Published journal articles indexed by SCI, SSCI, and AHCI

I. An experiment for electron-hadron scattering at the LHC

Andre K. D. J., Bella L. A., Armesto N., Bogacz S. A., Britzger D., Bruening O. S., D'Onofrio M., Ferreiro E. G., Fischer O., Gwenlan C., et al.

EUROPEAN PHYSICAL JOURNAL C, vol.82, no.1, 2022 (SCI-Expanded)

II. The Large Hadron-Electron Collider at the HL-LHC

Agostini P., Aksakal H., Alekhin S., Allport P. P., Andari N., Andre K. D. J., Angal-Kalinin D., Antusch S., Aperio Bella L., Apolinario L., et al.

JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, no.11, 2021 (SCI-Expanded)

III. Determination of Position Resolution for LYSO Scintillation Crystals Using Geant4 Monte Carlo Code

Yahya M. F. O., Kocak F.

ADVANCES IN HIGH ENERGY PHYSICS, vol.2021, 2021 (SCI-Expanded)

IV. EVALUATION OF ENERGY RESOLUTION BY CHANGING ANGLE AND POSITION OF INCIDENT PHOTON IN A LYSO CALORIMETER

Saad A. M. E., Kocak F.

ACTA PHYSICA POLONICA B, vol.51, no.11, 2020 (SCI-Expanded)

V. The impact of crystal length on calorimeter energy resolution

Saad A., Koçak F., Kirca Z.

AIP Conference Proceedings, vol.2178, no.30045, 2019 (SCI-Expanded)

VI. FCC-hh: The Hadron Collider: Future Circular Collider Conceptual Design Report Volume 3

Abada A., Abbrescia M., AbdusSalam S. S., Abdyukhanov I., Abelleira Fernandez J., Abramov A., Aburaia M., Acar A. O., Adzic P. R., Agrawal P., et al.

EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS, no.4, pp.755-1107, 2019 (SCI-Expanded)

VII. HE-LHC: The High-Energy Large Hadron Collider Future Circular Collider Conceptual Design Report Volume 4

Abada A., Abbrescia M., AbdusSalam S. S., Abdyukhanov I., Abelleira Fernandez J., Abramov A., Aburaia M., Acar A. O., Adzic P. R., Agrawal P., et al.

EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS, no.5, pp.1109-1382, 2019 (SCI-Expanded)

VIII. FCC Physics Opportunities: Future Circular Collider Conceptual Design Report Volume 1

Abada A., Abbrescia M., AbdusSalam S. S., Abdyukhanov I., Fernandez J. A., Abramov A., Aburaia M., Acar A. O., Adzic P. R., Agrawal P., et al.

EUROPEAN PHYSICAL JOURNAL C, no.6, 2019 (SCI-Expanded)

IX. FCC-ee: The Lepton Collider: Future Circular Collider Conceptual Design Report Volume 2

Abada A., Abbrescia M., AbdusSalam S. S., Abdyukhanov I., Fernandez J. A., Abramov A., Aburaia M., Acar A. O., Adzic P. R., Agrawal P., et al.

EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS, no.2, pp.261-623, 2019 (SCI-Expanded)

X. Simulation of LYSO Crystal for the TAC-PF Electromagnetic Calorimeter

Kocak F., Tapan İ.

ACTA PHYSICA POLONICA A, no.3, pp.527-529, 2017 (SCI-Expanded)

XI. Radiaton Effects on TAC-PF Electromagnetic Calorimeter

Pilicer E., Kocak F., Kilic A., Pilicer F. B., Tapan İ.

ACTA PHYSICA POLONICA A, no.1, pp.190-192, 2017 (SCI-Expanded)

XII. Investigation of Shot Noise in Avalanche Photodiodes

Kocak F., Kilic A., Tapan İ.

ACTA PHYSICA POLONICA A, no.4, pp.721-723, 2016 (SCI-Expanded)

- XIII. **Simulation studies of crystal-photodetector assemblies for the Turkish accelerator center particle factory electromagnetic calorimeter**
 Kocak F.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, vol.787, pp.144-147, 2015 (SCI-Expanded)
- XIV. **Influence of neutrons on signal fluctuations for APD structures**
 KILIÇ A., KOÇAK F., Pilicer E., Tapan İ.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, pp.215-216, 2013 (SCI-Expanded)
- XV. **A Large Hadron Electron Collider at CERN**
 Fernandez J. L. A., Adolphsen C., Akay A. N., Aksakal H., Albacete J. L., Alekhin S., Allport P., Andreev V., Appleby R. B., Arikan E., et al.
 JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, no.7, 2012 (SCI-Expanded)
- XVI. **Signal fluctuations in crystal-APD systems**
 Kocak F., Tapan İ., Pilicer E.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, 2011 (SCI-Expanded)
- XVII. **PbWO₄ Cherenkov light contribution to Hamamatsu S8148 and zinc sulfide-silicon avalanche photodiodes signals**
 Kocak F., Tapan İ.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, no.1-3, pp.398-399, 2010 (SCI-Expanded)
- XVIII. **Electrical properties of n-Si/Cu Schottky diodes formed by electrodeposition**
 Ahmetoglu (Afrailov) M., Alper M., Safak M., Erturk K., Gurpinar B., Kocak F., Haciismailoglu C.
 JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, vol.9, no.4, pp.818-821, 2007 (SCI-Expanded)
- XIX. **Excess noise in silicon avalanche photodiodes**
 Kocak F., Tapan İ.
 JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS, no.4, pp.810-813, 2007 (SCI-Expanded)
- XX. **Avalanche photodiodes for electromagnetic calorimeters**
 Pilicer E., Kocak F., Tapan İ., Ahmetoglu (Afrailov) M.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, no.1, pp.120-121, 2007 (SCI-Expanded)
- XXI. **Electrical properties of n-Si /Cu Schottky diodes formed by electrodeposition**
 AHMETOĞLU M., ALPER M., Safak M., Erturk K., Gurpinar B., KOÇAK F., HACİİSMAİLOĞLU M. C.
 Journal of Optoelectronics and Advanced Materials, vol.9, no.4, pp.818-821, 2007 (SCI-Expanded)
- XXII. **Change in the resistance of the semiconductor in the variable deformation field**
 Ahmetoglu (Afrailov) M., Gulyamov G., Shamirzaev S. H., Gulyamov A. G., Dadamirzaev M. G., Aprailov N., Kocak F.
 ROMANIAN JOURNAL OF PHYSICS, vol.52, pp.343-351, 2007 (SCI-Expanded)
- XXIII. **A ZnS-Si isotype heterojunction avalanche photodiode structure for scintillation light detection**
 Tapan İ., Ahmetoglu(Afrailov) M., Kocak F.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, no.1, pp.268-271, 2006 (SCI-Expanded)
- XXIV. **Excess noise factor of neutron-irradiated silicon avalanche photodiodes**
 Pilicer E., Kocak F., Tapan İ.
 NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS
 DETECTORS AND ASSOCIATED EQUIPMENT, no.1-2, pp.146-151, 2005 (SCI-Expanded)

Articles Published in Other Journals

- I. **A Monte Carlo Study on Position Resolution of PWO Crystal**

KOÇAK F.

Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.21, no.2, pp.296-298, 2017 (Peer-Reviewed Journal)

II. Effect of Neutrons to the Silicon Avalanche Photodiode

KILIÇ A., KOÇAK F., PİLİZÇER E., TAPAN İ., ÖZMUTLU E. N.

Balkan Physics Letters, vol.20, no.201024, pp.208-214, 2012 (Peer-Reviewed Journal)

III. Characterization of Electron Beams from Dosimetry Measurements

PİLİZÇER E., ALPAT B., MENICHELLI M., SERVOLI L., ITALIANI M., KOÇAK F., BUONO E., CASALE M., MUTI M., CARAFFINI D., et al.

Balkan Physics Letters, vol.19, no.191051, pp.445-451, 2011 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

**I. Sampling Calorimeter Design Study for the Future Circular Electron-Hadron Collider (FCC-eh)
Electromagnetic Calorimeter**

HASHİMİ Z., KOÇAK F.

TURKISH PHYSICAL SOCIETY 38TH INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 31 August 2022

II. Influence of Electron Incidence Angle on Position Resolutionin Crystal Calorimeters

Yahya M. F. O., Koçak F.

2nd International Conference on Light and Light-based Technologies (ICLLT), Ankara, Turkey, 26 - 28 May 2021

III. Detector Design for LHeC / lowE-FCCEh / FCCeh

Ghaddi A., KLEIN M., KOSTKA P., Polini A., Pilicer E., KOÇAK F., Kilic A., Kate H. T., Dudarev A.

ELECTRONS FOR THE LHC: Workshop on the LHeC, FCC-eh and PERLE, 24 - 25 October 2019

IV. Kalorimetreler

KOÇAK F.

VII. Uluslararası Katılımlı Parçacık Hızlandırıcıları ve Detektörleri Yaz Okulu-UPHDYO VII, Turkey, 21 - 26 August 2011

V. Detector Design for LHeC/HE-LHeC/FCCEh

KLEIN M., KOSTKA P., PİLİZÇER E., KOÇAK F., KILIÇ A.

Electrons for the LHC - LHeC/FCC-eh and PERLE Workshop, Orsay, France, 27 - 29 June 2018

VI. Calculation of Position Resolution for LYSO Crystal

KOÇAK F.

APMAS2017-7th International Advances in Applied Physics and Materials Science Congress Exhibition, Turkey, 22 - 26 April 2017

VII. Kristal Kalorimetre Simülasyonu

KOÇAK F.

XI. Ulusal Nükleer Bilimler ve Teknolojileri Kongresi, Turkey, 12 - 14 October 2016

VIII. Sintilasyon Detektörleri

KOÇAK F.

X. Uluslararası Katılımlı Parçacık Hızlandırıcıları ve Detektörleri Yaz Okulu, Turkey, 14 - 19 July 2014

IX. THM PF Detektörü Kalorimetre Ünitesi Çalışmaları

KILIÇ A., KOÇAK F.

THM Parçacık Fabrikası Çalışayı, Ankara, Turkey, 3 - 05 May 2013

X. Simulation of Radiation Damage with GEANT4 and SRIM Interface

KILIÇ A., KOÇAK F., Pilicer B., Pilicer E.

Turkish Physical Society 29th International Physics Congress, 5 - 08 September 2012

XI. Characterization of Silicon Detectors to Heavy Ions

KILIÇ A., KOÇAK F., PİLİZÇER B., PİLİZÇER E.

TFD 29. Uluslararası Fizik Kongresi, BODRUM, Turkey, 5 - 08 September 2012

XII. Simulation of Let and Range

KILIÇ A., KOÇAK F., PİLİÇER B., PİLİÇER E.

Turkish Physical Society 29th International Physics Congress TFD29, 5 - 08 September 2012

XIII. Preliminary Design of the TAC SR Photon Diagnostic System

KOÇAK F., TAPAN İ.

SESAME-JSPS-Sabancı University Synchrotron Radiation School, Antalya, Turkey, 28 February - 06 March 2010

XIV. THM IR SEL Foton Diyagnostik Sistemi Çalışması

KOÇAK F.

VIII. THM YUUP (Türk Hızlandırıcı Merkezi Yaygınlaştırılmış Ulusal ve Uluslararası Proje) Çalışayı, Ankara, Turkey, 7 - 08 December 2009

XV. Sinkrotron Işınımı için Model Diyagnostik Sistemi

KOÇAK F., TAPAN İ.

VII. THM YUUP Çalışayı (Türk Hızlandırıcı Merkezi Yaygınlaştırılmış Ulusal ve Uluslararası Proje), Kayseri, Turkey, 18 - 20 June 2009

XVI. Sinkrotron Işınımı Foton Diyagnostiği

KOÇAK F., TAPAN İ.

VI. THM YUUP Çalışayı (Türk Hızlandırıcı Merkezi Yaygınlaştırılmış Ulusal ve Uluslararası Proje), Ankara, Turkey, 2 - 05 December 2008

XVII. Foton Demet Diagnostiği

KOÇAK F., ŞAHİN Ö., TAPAN İ.

3. Ulusal Parçacık Hızlandırıcıları ve Uygulamaları Kongresi (UPHUK3), Turkey, 17 - 19 September 2007

XVIII. Fluctuations in Avalanche photodiode structure

KOÇAK F., Tapan İ.

6th International Conference of the Balkan-Physical-Union, İstanbul, Turkey, 22 - 26 August 2006, pp.201-202

XIX. Excess Noise in Silicon Avalanche Photodiodes

KOÇAK F., TAPAN İ.

IBWAP07- 7th International Balkan Workshop on Applied Physics, Constanta, Romania, 5 - 07 July 2006

XX. Investigation of Photon Detection Efficiency for Avalanche Photodiode (APD) Structure

KOÇAK F., TAPAN İ.

5th General Conference of the Balkan Physical Union BPU-5, Vrnjacka Banja, Serbia, 25 - 29 August 2003

Supported Projects

KOÇAK F., KILIÇ A., Project Supported by Higher Education Institutions, X Işınları ile Yeni Nesil CdTe Yarıiletken Detektörünün Karakterizasyon İncelemeleri, 2014 - 2017

Tapan İ., Piliçer E., Piliçer F. B., Kılıç A., Koçak F., Project Supported by Higher Education Institutions, SiPM Detektörü ile Enerji ve Zaman Çözünürlüğü Ölçümleri, 2015 - 2016

KOÇAK F., Project Supported by Higher Education Institutions, SiPM Detektörü ile Enerji ve Zaman Çözünürlüğü Ölçümleri, 2015 - 2016

KOÇAK F., Project Supported by Higher Education Institutions, Yeni Nesil Sintilasyon Detektörlerinin Karakterizasyonu ve Geliştirilmesi, 2013 - 2016

KOÇAK F., ALPER M., Other International Funding Programs, Electrodeposition of Nanostructured Materials and Their Magnetic and Magnetotransport Characterisation, 2004 - 2005

Metrics

Publication: 49

Citation (WoS): 1889

Citation (Scopus): 2455

H-Index (WoS): 8

H-Index (Scopus): 8