

## Prof. Dr. İLKAY TÜRK ÇAKIR



### Kişisel Bilgiler

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ScopusID: 56771589500  
Yoksis Araştırmacı ID: 135086

### Araştırma Alanları

DeneySEL Yüksek Enerji Fiziği Çalışmaları, Parçacık Hızlandırıcıları, Parçacık Dedektörleri ve Kalorimetreler, Fizik Analizi ve Simülasyon Çalışmaları

### Akademik Unvanlar / Görevler

Prof. Dr., Ankara Üniversitesi, Hızlandırıcı Teknolojileri Enstitüsü, Hızlandırıcı Teknolojileri Anabilim Dalı, 2023 - Devam Ediyor  
Prof. Dr., Giresun Üniversitesi, MÜHENDİSLİK FAKÜLTESİ, ENERJİ SİSTEMLERİ MÜHENDİSLİĞİ BÖLÜMÜ, 2016 - 2022  
Doç. Dr., Giresun Üniversitesi, MÜHENDİSLİK FAKÜLTESİ, ENERJİ SİSTEMLERİ MÜHENDİSLİĞİ BÖLÜMÜ, 2015 - 2017  
Doç. Dr., İstanbul Aydın Üniversitesi, Mühendislik Fakültesi, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ BÖLÜMÜ, 2014 - 2015  
Araştırma Görevlisi, Ankara Üniversitesi, Fen Fakültesi, Fizik Bölümü, 1995 - 2002

### Akademik İdari Deneyim

Enstitü Müdürü, Ankara Üniversitesi, 2023 - Devam Ediyor  
Araştırma Enstitüsü Müdür Yardımcısı, İstanbul Aydın Üniversitesi, 2014 - 2015

### Jüri Üyelikleri

Tez Savunma (Doktora), Tez Savunma (Doktora), Ankara Üniversitesi, Haziran, 2023

### SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- Measurement of the polarisation of single top quarks and antiquarks produced in the  $t\bar{t}$ -channel at  $\sqrt{s}=13$  TeV and bounds on the  $tWb$  dipole operator from the ATLAS experiment**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Abramowicz H., Abreu H.,

Abulaiti Y., et al.

JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.11, 2022 (SCI-Expanded)

- II. **Search for type-III seesaw heavy leptons in leptonic final states in  $\sqrt{s}=13$  TeV collisions at the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Abramowicz H., Abreu H., Abulaiti Y., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.11, 2022 (SCI-Expanded)
- III. **Search for Higgs boson pair production in the two bottom quarks plus two photons final state in  $\sqrt{s}=13$  TeV collisions at the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Abramowicz H., Abreu H., Abulaiti Y., et al.  
PHYSICAL REVIEW D, cilt.106, sa.5, 2022 (SCI-Expanded)
- IV. **Observation of  $WW$  Production in  $pp$  Collisions at  $\sqrt{s}=13$  TeV with the ATLAS Detector**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Aboulhorma A., Abramowicz H., Abreu H., et al.  
PHYSICAL REVIEW LETTERS, cilt.129, sa.6, 2022 (SCI-Expanded)
- V. **Modelling and computational improvements to the simulation of single vector-boson plus jet processes for the ATLAS experiment**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.8, 2022 (SCI-Expanded)
- VI. **Measurements of Higgs boson production cross-sections in the  $H \rightarrow \tau^+ \tau^-$  decay channel in  $pp$  collisions at  $\sqrt{s}=13$  TeV with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.8, 2022 (SCI-Expanded)
- VII. **Search for events with a pair of displaced vertices from long-lived neutral particles decaying into hadronic jets in the ATLAS muon spectrometer in  $pp$  collisions at  $\sqrt{s}=13$  TeV**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
PHYSICAL REVIEW D, cilt.106, sa.3, 2022 (SCI-Expanded)
- VIII. **Measurements of the Higgs boson inclusive and differential fiducial cross-sections in the diphoton decay channel with  $pp$  collisions at  $\sqrt{s}=13$  TeV with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.8, 2022 (SCI-Expanded)
- IX. **Study of  $B_c \rightarrow J/\psi D_s$  and  $B_c \rightarrow J/\psi D_s^*$  decays in  $pp$  collisions at  $\sqrt{s}=13$  TeV with the ATLAS detector**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.8, 2022 (SCI-Expanded)
- X. **Search for invisible Higgs-boson decays in events with vector-boson fusion signatures using 139 fb of proton-proton data recorded by the ATLAS experiment**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.8, 2022 (SCI-Expanded)
- XI. **Measurements of jet observables sensitive to  $b$ -quark fragmentation in  $t\bar{t}$  over-bar events at the LHC with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Abouzeid O., Abraham N.,

Abramowicz H., et al.

PHYSICAL REVIEW D, cilt.106, sa.3, 2022 (SCI-Expanded)

- XII. **Constraints on Higgs boson properties using  $WW^*(\rightarrow e\nu\mu\nu)jj$  production in  $36.1 \text{ fb}^{-1}$  of  $\sqrt{s}=13 \text{ TeV}$   $pp$  collisions with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., AbouZeid O., Abraham N., Abramowicz H., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.7, 2022 (SCI-Expanded)
- XIII. **Two-particle Bose-Einstein correlations in  $pp$  collisions at  $\sqrt{s}=13 \text{ TeV}$  measured with the ATLAS detector at the LHC**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., AbouZeid O., Abraham N., Abramowicz H., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.7, 2022 (SCI-Expanded)
- XIV. **Search for long-lived charginos based on a disappearing-track signature using  $136 \text{ fb}^{-1}$  of  $pp$  collisions at  $\sqrt{s}=13 \text{ TeV}$  with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Abramowicz H., Abreu H., Abulaiti Y., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.7, 2022 (SCI-Expanded)
- XV. **Measurements of azimuthal anisotropies of jet production in Pb collisions at  $\sqrt{s}=5.02 \text{ TeV}$  with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
PHYSICAL REVIEW C, cilt.105, sa.6, 2022 (SCI-Expanded)
- XVI. **Measurements of differential cross-sections in top-quark pair events with a high transverse momentum top quark and limits on beyond the Standard Model contributions to top-quark pair production with the ATLAS detector at  $\sqrt{s}=13 \text{ TeV}$**   
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.6, 2022 (SCI-Expanded)
- XVII. **Measurement of Higgs boson decay into  $b$ -quarks in associated production with a top-quark pair in  $pp$  collisions at  $\sqrt{s}=13 \text{ TeV}$  with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.6, 2022 (SCI-Expanded)
- XVIII. **Constraints on Higgs boson production with large transverse momentum using  $H \rightarrow b(\bar{b})$  decays in the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
PHYSICAL REVIEW D, cilt.105, sa.9, 2022 (SCI-Expanded)
- XIX. **Search for resonant pair production of Higgs bosons in the  $b(\bar{b})\bar{b}b$  final state using  $pp$  collisions at  $\sqrt{s}=13 \text{ TeV}$  with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Abramowicz H., Abreu H., Abulaiti Y., et al.  
PHYSICAL REVIEW D, cilt.105, sa.9, 2022 (SCI-Expanded)
- XX. **Determination of the parton distribution functions of the proton using diverse ATLAS data from  $pp$  collisions at  $\sqrt{s}=7, 8$  and  $13 \text{ TeV}$**   
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.5, 2022 (SCI-Expanded)
- XXI. **Search for single production of a vectorlike T quark decaying into a Higgs boson and top quark with fully hadronic final states using the ATLAS detector**

Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.

PHYSICAL REVIEW D, cilt.105, sa.9, 2022 (SCI-Expanded)

- XXII. **Measurement of the energy asymmetry in  $t\bar{t}$  production at 13 TeV with the ATLAS experiment and interpretation in the SMEFT framework**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.4, 2022 (SCI-Expanded)
- XXIII. **Search for flavour-changing neutral-current interactions of a top quark and a gluon in  $pp$  collisions at  $\sqrt{s}=13$  TeV with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.4, 2022 (SCI-Expanded)
- XXIV. **Search for Higgs bosons decaying into new spin-0 or spin-1 particles in four-lepton final states with the ATLAS detector with 139 fb<sup>-1</sup> of  $pp$  collision data at  $\sqrt{s}=13$  TeV**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.3, 2022 (SCI-Expanded)
- XXV. **Search for new phenomena in three- or four-lepton events in  $pp$  collisions at  $\sqrt{s} = 13$  TeV with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., AbouZeid O., Abramowicz H., Abreu H., et al.  
Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, cilt.824, 2022 (SCI-Expanded)
- XXVI. **Search for Higgs boson decays into a pair of pseudoscalar particles in the  $b\bar{b}\mu\mu$  final state with the ATLAS detector in  $pp$  collisions at  $\sqrt{s}=13$  TeV**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
PHYSICAL REVIEW D, cilt.105, sa.1, 2022 (SCI-Expanded)
- XXVII. **Operation and performance of the ATLAS semiconductor tracker in LHC Run 2**  
Aad G., Abbott B., Abbott D., Abud A. A., Abeling K., Abhayasinghe D., Abidi S., Aboulhorma A., Abramowicz H., Abreu H., et al.  
JOURNAL OF INSTRUMENTATION, cilt.17, sa.1, 2022 (SCI-Expanded)
- XXVIII. **Search for exotic decays of the Higgs boson into  $b\bar{b}(\bar{b})$  and missing transverse momentum in  $pp$  collisions at  $\sqrt{s}=13$  TeV with the ATLAS detector**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Abramowicz H., Abreu H., Abulaiti Y., et al.  
JOURNAL OF HIGH ENERGY PHYSICS, cilt.2022, sa.1, 2022 (SCI-Expanded)
- XXIX. **Measurement of the  $c$ -jet mistagging efficiency in  $t\bar{t}(\bar{t})$  events using  $pp$  collision data at  $\sqrt{s}=13$  TeV collected with the ATLAS detector**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Aboulhorma A., Abramowicz H., Abreu H., et al.  
EUROPEAN PHYSICAL JOURNAL C, cilt.82, sa.1, 2022 (SCI-Expanded)
- XXX. **Search for heavy particles in the  $b$ -tagged dijet mass distribution with additional  $b$ -tagged jets in proton-proton collisions at  $p\sqrt{s}=13$  TeV with the ATLAS experiment**  
Aad G., Abbott B., Abbott D., Abed Abud A., Abeling K., Abhayasinghe D., Abidi S., Abramowicz H., Abreu H., Abulaiti Y., et al.  
PHYSICAL REVIEW D, cilt.105, sa.1, 2022 (SCI-Expanded)
- XXXI. **Search for R-parity-violating supersymmetry in a final state containing leptons and many jets with the ATLAS experiment using root  $s=13$  TeV proton-proton collision data**  
Aad G., Abbott B., Abbott D. C., Abud A. A., Abeling K., Abhayasinghe D. K., Abidi S. H., Abramowicz H., Abreu H.,

Abulaiti Y., et al.

EUROPEAN PHYSICAL JOURNAL C, cilt.81, sa.11, 2021 (SCI-Expanded)

## Diğer Dergilerde Yayınlanan Makaleler

### I. Software Performance of the ATLAS Track Reconstruction for LHC Run 3

Aad G., Abbott B., Abeling K., Abicht N., Abidi S., Abouhorma A., Abramowicz H., Abreu H., Abulaiti Y., Acharya B., et al.

Computing and Software for Big Science, cilt.8, sa.1, 2024 (Scopus)

### II. Anaerobik Biyoreaktördeki Sığır Gübresinin Biyometan Veriminin Termal Ön İşlemlerle Artırılması

TURK ÇAKIR I., Şenol h., KAYGUSUZ E.

Karadeniz Fen Bilimleri Dergisi, cilt.13, sa.2, ss.652-664, 2023 (Hakemli Dergi)

## Desteklenen Projeler

Denizli H., Şenol A., Çakir O., Türk Çakir I., Sultanov S., Yılmaz A., Kудay S., Enerji ve Tabii Kaynaklar Bakanlığı, CERN'de Gelecek Dairesel Çarpıştırıcı (FCC) için Dedektör ve Fizik Araştırmaları, 2018 - 2022

## Bilimsel Kuruluşlardaki Üyelikler / Görevler

FCC FUTURE CIRCULAR COLLIDER, Ülke Temsilcisi, 2020 - Devam Ediyor , Türkiye

CERN ATLAS DENEYİ, Üye, 2000 - Devam Ediyor , Türkiye

## Etkinlik Organizasyonlarındaki Görevler

Türk Çakır I., FCC İş Birliği Çerçevesinde Ulusal Bilgi Paylaşımı Çalıştayı, Çalıştay Organizasyonu, Türkiye, Nisan 2022

## Metrikler

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Atıf (Scopus): 338

H-İndeks (WoS): 7

H-İndeks (Scopus): 12

## Davetli Konuşmalar

FCC , Çalıştay, ISPAD 2023, Türkiye, Mayıs 2023