

# Prof. BÜLENT GÜLTEKİN AKINOĞLU

## Personal Information

Office Phone: [+90 312 210 5064](tel:+903122105064)

Fax Phone: [+90 312 210 5099](tel:+903122105099)

Email: [bulo@metu.edu.tr](mailto:bulo@metu.edu.tr)

Web: <http://www.physics.metu.edu.tr/~bulent/>

Address: ODTÜ Fizik Bölümü; 06800

## Education Information

Doctorate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Fizik (Dr), Turkey 1982 - 1989

## Foreign Languages

English, C1 Advanced

## Research Areas

Natural Sciences

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Physics, 2001 - Continues

Associate Professor, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Physics, 1990 - 2001

Assistant Professor, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Physics, 1991 - 1993

Lecturer PhD, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Physics, 1990 - 1991

Research Assistant, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Physics, 1979 - 1990

## Advising Theses

AKINOĞLU B. G. , Description and verification of a model to calculate the efficiency of a bifacial pv module using theoretical and experimental observations, Postgraduate, B.Durusoy(Student), 2020

AKINOĞLU B. G. , Technical potential of rooftop solar photovoltaic for Ankara: A preliminary study, Postgraduate, E.Ceren(Student), 2020

AKINOĞLU B. G. , Investigating the performances of photovoltaic modules/systems for Central Anatolia using a thermal modeling approach, Postgraduate, B.Tunçel(Student), 2019

AKINOĞLU B. G. , Using artificial neural network (ANN) techniques for solar irradiation predictions, Postgraduate, E.Can(Student), 2019

AKINOĞLU B. G. , Development of the algorithm of solar TURnKEY: Solar electricity software for Turkey, Doctorate, A.BUĞRAHAN(Student), 2018

AKINOĞLU B. G. , ÖZDEMİR Ö., Investigating preferences of households for residential photovoltaic systems: A survey study in Ankara, Turkey, Postgraduate, E.ASLIHAK(Student), 2016

AKINOĞLU B. G. , SOYTAŞ U., Nuclear energy versus solar energy (Nuke vs. PV): The comparison of their economic feasibilities and environmental aspects for Turkey, Postgraduate, A.BUĞRAHAN(Student), 2014

AKINOĞLU B. G. , SOYTAŞ U., Decarbonization of turkish public electricity sector: Adopting sustainable energy portfolio, Postgraduate, H.ŞAHİN(Student), 2014

AKINOĞLU B. G. , Linking satellite imagery to bright sunshine hours for the estimation of global solar irradiation, Doctorate, S.ENER(Student), 2013

AKINOĞLU B. G. , YILMAZ İ. Ö. , Analysis of sunshine duration between 1970 and 2010 for Turkey, Postgraduate, U.YILDIRIM(Student), 2013

AKINOĞLU B. G. , Photoluminescence study of ge-implanted gase and inse single crystals grown by bridgman method, Postgraduate, S.Bilgi(Student), 2006

AKINOĞLU B. G. , Aknoğlu B., Steady state and transient simulations in 2D and 3D for crystal growth by vertical bridgman systems, Doctorate, E.Taşarkuyu(Student), 2003

AKINOĞLU B. G. , PARLAK M., Structural electrical and optical characterization of N- and Si-implanted GaSe single crystal grown by bridgman method, Doctorate, O.Karabulut(Student), 2003

## Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Beyond 3rd generation solar cells and the full spectrum project. Recent advances and new emerging solar cells**  
AKINOĞLU B. G. , Tuncel B., Badescu V.  
Sustainable Energy Technologies and Assessments, vol.46, 2021 (Journal Indexed in SCI)
- II. **Solar irradiation on the rear surface of bifacial solar modules: a modeling approach**  
Durusoy B., ÖZDEN T., AKINOĞLU B. G.  
SCIENTIFIC REPORTS, vol.10, no.1, 2020 (Journal Indexed in SCI)
- III. **One-year performance evaluation of two newly developed back-contact solar modules in two different climates**  
ÖZDEN T., Carr A. J. , Geerligs B. (. J. ) , TURAN R., AKINOĞLU B. G.  
RENEWABLE ENERGY, vol.145, pp.557-568, 2020 (Journal Indexed in SCI)
- IV. **Pressure dependence of the raman spectra of cdinals4 layer crystal**  
HASANLI N., AKINOĞLU B. G. , Babaev S., Ibragimov Z.  
High Pressure Research, vol.13, pp.115-120, 1994 (Journal Indexed in SCI Expanded)
- V. **Elastic Properties of GaS1–xSex Layer Mixed Crystals by Brillouin Scattering**  
HASANLI N., AKINOĞLU B. G. , Ellialtıoğlu Ş.  
physica status solidi (b), vol.177, no.2, 1993 (Journal Indexed in SCI)

## Books & Book Chapters

- I. **Fiziğin Temelleri 3 kitap**  
AKINOĞLU B. G. , H Murat A.  
Palme Yayınevi, Ankara, 2015

## Refereed Congress / Symposium Publications in Proceedings

- I. **Deep Learning Algorithm Applied to Daily Solar Irradiation Estimations**  
Akbaba E. C. , YÜCE E., AKINOĞLU B. G.  
6th International Renewable and Sustainable Energy Conference, Rabat, Malta, 5 - 08 December 2018
- II. **Long and short term PV module and array performance calculations and feasibility studies**  
AKINOĞLU B. G.

IRSEC'18 – 6th International Renewable and Sustainable Energy Conference, Rabat, Malta, 5 - 08 December 2018

- III. **Determining Photovoltaic Module Performance and Comparisons**  
Karaveli A. B. , ÖZDEN T., AKINOĞLU B. G.  
2018 International Conference on Photovoltaic Science and Technologies (PVCon), 4 - 06 July 2018, pp.1-5
- IV. **Thermal Modeling and Verification of PV Module Temperature and Energy Yield Using Outdoor Measurements for Ankara, Turkey**  
Tuncel B., AKINOĞLU B. G. , ÖZDEN T., Balog R. S.  
2018 International Conference on Photovoltaic Science and Technologies (PVCon), 4 - 06 July 2018
- V. **Daily and Monthly Module Temperature Variation for 9 Different Modules**  
ÖZDEN T., Tolgay D., AKINOĞLU B. G.  
2018 International Conference on Photovoltaic Science and Technologies (PVCon), 4 - 06 July 2018, pp.4849-4854
- VI. **Performance and Degradation Analyses of two Different PV Modules in Central Anatolia**  
ÖZDEN T., AKINOĞLU B. G. , Kurtz S.  
2018 International Conference on Photovoltaic Science and Technologies (PVCon), 4 - 06 July 2018
- VII. **Measurement of economic feasibility of photovoltaic power plants - application to Turkey**  
Karaveli A. B. , AKINOĞLU B. G. , SOYTAŞ U.  
2018 International Conference on Photovoltaic Science and Technologies, PVCon 2018, Ankara, Turkey, 4 - 06 July 2018
- VIII. **The Role of Legislations and Incentives in the Growth of a PV Market in a Developing Country**  
Karaveli A. B. , SOYTAŞ U., AKINOĞLU B. G.  
5th International Renewable and Sustainable Energy Conference, IRSEC 2017, Tangier, Morocco, 4 - 07 December 2017
- IX. **Impacts of a photovoltaic power plant for possible heat island effect**  
Demirezen E., Ozden T., Akinoğlu B. G.  
2018 International Conference on Photovoltaic Science and Technologies, PVCon 2018, Ankara, Turkey, 4 - 06 July 2018
- X. **Approaching Net-Zero Energy Building Through Utilization of Building-Integrated Photovoltaics for Three Cities in Turkey-Preliminary Calculations**  
Uygun U., AKGÜL Ç., GÜRSEL DİNO İ., AKINOĞLU B. G.  
2018 International Conference on Photovoltaic Science and Technologies (PVCon), 4 - 06 July 2018
- XI. **Approaching Net-Zero Energy Building Through Utilization of Building-Integrated Photovoltaics for Three Cities in Turkey-Preliminary Calculations**  
Uygun U., Akgül Ç., Gürsel Dino I., Aknoğlu B. G.  
2018 International Conference on Photovoltaic Science and Technologies (PVCon), Ankara, Turkey, 4 - 06 July 2018
- XII. **Correlations between the water levels of Lakes Beysehir and Marmara with sunshine duration and time series of sunspot numbers**  
Yıldırım U., YILMAZ İ. Ö. , BEKLİOĞLU M., AKINOĞLU B. G.  
7th GLOBALCONFERENCE on GLOBAL WARMING, İzmir, Turkey, 24 - 26 June 2018, pp.153-156
- XIII. **Recent advances in solar irradiation predictions as the input of solar system simulations: From Earth's surface measurements to satellite imagery From Angstrom correlation to ANN**  
AKINOĞLU B. G.  
5th International Renewable and Sustainable Energy Conference, 4 - 07 December 2017
- XIV. **Seasonal Variation of the Monthly Efficiencies of Thin Film PV Modules**  
ÖZDEN T., TURAN R., AKINOĞLU B. G.  
International Renewable and Sustainable Energy Conference - IRSEC-2017, 4 - 07 December 2017
- XV. **On the Yearly Performance of a Bifacial PV Module in Central Anatolia - Turkey**  
ÖZDEN T., TURAN R., AKINOĞLU B. G.  
International Renewable and Sustainable Energy Conference - IRSEC-2017, 4 - 07 December 2017
- XVI. **Evaluation and Comparisons of the Models to Calculate Solar Irradiation on Inclined Solar Panels for Ankara**

- ÖZDEN T., AKINOĞLU B. G. , KARAVELİ A. B.  
33rd European PV Solar Energy Conference and Exhibition - EU PVSEC 2017, 25 - 29 September 2017, pp.2501-2504
- XVII. **Preliminary Investigations on Two Different Procedures to Calculate the Efficiency and Performance Ratio of PV Modules**  
ÖZDEN T., AKINOĞLU B. G.  
4th International Conference on Computational and Experimental Science and Engineering (ICCESEN 2017), 4 - 08 October 2017, pp.225
- XVIII. **Economic Analysis of a Typical Photovoltaic Power Plant in Turkey**  
Karaveli A. B. , AKINOĞLU B. G. , SOYTAŞ U.  
33rd European Photovoltaic Solar Energy Conference and Exhibition, 25 - 29 September 2017, pp.2235-2239
- XIX. **Yenilenebilir Enerji Mümkün mü? Dünya ve Türkiye**  
AKINOĞLU B. G.  
Güneydoğu Enerji Forumu, Turkey, 25 May 2017
- XX. **GUNAM's Outdoor PV Test Facility, recent research results and future prospects**  
AKINOĞLU B. G. , ÖZDEN T., TURAN R.  
Desert PV Modules, 9 - 10 May 2017
- XXI. **Effect of Ambient Conditions on Monthly Performances of Three Different PV Arrays**  
ÖZDEN T., AKINOĞLU B. G. , TURAN R.  
11th ISES EuroSun Conference, Palma, Spain, 11 - 14 October 2016, pp.1266-1272
- XXII. **Estimation of diffuse component for two locations in Turkey**  
Karaveli A. B. , AKINOĞLU B. G.  
11th ISES EuroSun Conference, Palma, Spain, 11 - 14 October 2016, pp.1467-1474
- XXIII. **LONG TERM OUTDOOR TESTING OF TWO DIFFERENT THIN FILM PV MODULES IN ANKARA TURKEY**  
ÖZDEN T., AKINOĞLU B. G. , TURAN R.  
9th International Conference on Sustainable Energy & Environmental Protection, 21 September 2016
- XXIV. **COMPARISON OF QUADRATIC AND LINEAR MODELS ON THE ESTIMATION OF DIFFUSE SOLAR RADIATION FOR FOUR LOCATIONS IN TURKEY**  
Karaveli A. B. , AKINOĞLU B. G.  
9th International Conference on Sustainable Energy & Environmental Protection, 21 September 2016
- XXV. **INVESTIGATING THE FACTORS AFFECTING WILLINGNESS TO PAY FOR RESIDENTIAL PHOTOVOLTAIC SYSTEMS A SURVEY STUDY IN ANKARA TURKEY**  
Aslıhak E., ÖZDEMİR Ö., AKINOĞLU B. G.  
9th International Conference on Sustainable Energy & Environmental Protection, 21 September 2016
- XXVI. **Outdoor efficiency analyses and comparison of on-grid CdTe and mu c-Si/a-Si thin-film PV systems for three years in Ankara - Turkey**  
ÖZDEN T., Yardım U., AKINOĞLU B. G. , TURAN R.  
3rd Turkish Solar Electricity Conference and Exhibition (SolarTR), Ankara, Turkey, 27 - 29 April 2015, vol.12, pp.1283-1287
- XXVII. **QUADRATIC VARIATION OF GLOBAL SOLAR RADIATION WITH BRIGHT SUNSHINE HOURS**  
AKINOĞLU B. G.  
2ND WORLD RENEWABLE ENERGY CONGRESS, United Kingdom, 13 September - 18 January 1992, pp.2774-2778

## Supported Projects

AKINOĞLU B. G. , YILMAZ A., Demirezen E., Özden T. ( . D. D. , TURAN R., Project Supported by Higher Education Institutions, Türkiye'de Büyük Ölçekli Güneş Enerjisi Santrallerinden Kaynaklı Olası "Isı Adası" Etkisinin İncelenmesi, 2017 - 2017

## Citations

Total Citations (WOS):524

h-index (WOS):14