

## Lect. GENÇE BEKTAŞ

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### Education Information

Doctorate, Middle East Technical University, Presidency Office, Turkey 2017 - 2022

### Academic Titles / Tasks

Lecturer PhD, Middle East Technical University, Presidency Office, Presidency Office, 2020 - Continues

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Influence of boron doping profile on emitter and metal contact recombination for n-PERT silicon solar cells**  
BEKTAŞ G., Aslan S., Keçeci A. E., Özyahni V., Canar H. H., Asav H., Seyrek S., Verlinden P. J., TURAN R.  
Solar Energy Materials and Solar Cells, vol.272, 2024 (SCI-Expanded)
- II. **Development of Low-Cost c-Si-Based CPV Cells for a Solar Co-Generation Absorber in a Parabolic Trough Collector**  
Aydin E., Buchroithner A., Felsberger R., Preßmair R., Azgın A., TURAN R., Keçeci A. E., BEKTAŞ G., AKINOĞLU B. G.  
Energies, vol.17, no.12, 2024 (SCI-Expanded)
- III. **A comparative study on alternative industrial manufacturing routes for bifacial n-PERT silicon solar cells**  
BEKTAŞ G., Seyrek S., Keçeci A. E., Aslan S., Özyahni V., Canar H. H., Asav H., Kaplan Y. M., TURAN R.  
Progress in Photovoltaics: Research and Applications, vol.31, no.10, pp.1016-1022, 2023 (SCI-Expanded)
- IV. **On the passivation performance of SiNx, SiOxNy and their stack on c-Si wafers for solar cell applications: Correlation with optical, chemical and interface properties**  
Canar H. H., Bektaş G., Turan R.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.256, pp.1-6, 2023 (SCI-Expanded)
- V. **High carrier lifetimes in UMG multicrystalline wafers after P- diffusion compatible with high-efficiency cell structures**  
Dasilva-Villanueva N., Arikan B., Canar H. H., Fuertes Marron D., Hong B., Kececi A. E., Butuner S. K., Bektas G., Turan R., del Canizo C.  
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.250, 2023 (SCI-Expanded)
- VI. **Impact of ion implantation and annealing parameters on bifacial PERC and PERT solar cell**

## **performance**

Siddiqui A., Bektaş G., Nasser H., Turan R., Usman M.

Sustainable Energy Technologies and Assessments, vol.53, 2022 (SCI-Expanded)

- VII. **Simplified process flow for the fabrication of PERC solar cells with ion implanted emitter**  
Bektas G., Kokbudak G., Kececi A. E., Butuner S. K., Asav H., Ciftpinar E. H., Canar H. H., Arikan B., Turan R.  
Renewable Energy, vol.179, pp.2295-2299, 2021 (SCI-Expanded)
- VIII. **Guideline for Optical Optimization of Planar Perovskite Solar Cells**  
Koc M., Soltanpoor W., Bektas G., Bolink H. J., Yerci S.  
Advanced Optical Materials, vol.7, no.23, 2019 (SCI-Expanded)
- IX. **Electrical, optical and surface characterization of reactive RF magnetron sputtered molybdenum oxide films for solar cell applications**  
Mehmood H., BEKTAŞ G., YILDIZ İ., Tauqeer T., Nasser H., TURAN R.  
MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING, vol.101, pp.46-56, 2019 (SCI-Expanded)
- X. **Mechanical and optical properties of SiO<sub>2</sub> thin films deposited on glass**  
Simurka L., Ctvrtlik R., Tomastik J., Bektas G., Svoboda J., Bange K.  
Chemical Papers, vol.72, no.9, pp.2143-2151, 2018 (SCI-Expanded)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **The effect of SiN<sub>x</sub>:H stoichiometry on electrical and chemical passivation of Al<sub>2</sub>O<sub>3</sub>/SiN<sub>x</sub>:H stack layer on p-type silicon wafers**  
Canar H. H., BEKTAŞ G., Keçeci A. E., Asav H., Bütüner S. K., Arlkan B., TURAN R.  
12th International Conference on Crystalline Silicon Photovoltaics, SiliconPV 2022, Hybrid, Konstanz, Germany, 28 - 30 March 2022, vol.2826
- II. **Optimization of front and rear surface dielectric passivation layers for ion implanted PERC solar cells**  
BEKTAŞ G., Canar H. H., Keçeci A. E., Asav H., Seyrek S., Bütüner S. K., TURAN R.  
12th International Conference on Crystalline Silicon Photovoltaics, SiliconPV 2022, Hybrid, Konstanz, Germany, 28 - 30 March 2022, vol.2826
- III. **Effect of Implanted Phosphorus Profile on iVoc Variations During Firing Process of n-type Silicon**  
BEKTAŞ G., ÇİFTPINAR E. H., Bütüner S. K., Keçeci A. E., Canar H. H., Kökbudak G., Asav H., TURAN R.  
11th International Conference on Crystalline Silicon Photovoltaics, SiliconPV 2021, Hamelin, Virtual, Germany, 19 - 23 April 2021, vol.2487
- IV. **Selective Emitter Formation via Laser Doping with Picosecond Pulsed Laser for High-Efficiency PERC Solar Cells**  
ASAV H., BEKTAŞ G., TURAN R.  
38th European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC), Germany, 06 September 2021, pp.271-273
- V. **Comparison of Electrical Performances of Fully Ion Implanted n-PERT Solar Cells Made of Different n-Type Wafer Feedstocks**  
BEKTAŞ G., TURAN R.  
38th European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC), Germany, 6 - 10 September 2021, pp.281-282
- VI. **Performance Enhancement of PERC Solar Cell with SiO<sub>x</sub>N<sub>y</sub> Back Surface Passivation by Low Temperature Annealing Process**  
KEÇECİ A. E., BEKTAŞ G., TURAN R.  
38th European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC), Germany, 06 September 2021, pp.257-260
- VII. **Effect of surface morphology on passivation quality of Al<sub>2</sub>O<sub>3</sub>/SiN<sub>x</sub> stack layer for PERC solar cell**  
KOÇAK BÜTÜNER S., BEKTAŞ G., TURAN R.

38th European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC), Germany, 06 September 2021, pp.291-292

VIII. **Effect of Doping Profile on Contact Resistivity Between Screen Printed Ag/Al and Implanted Boron Emitter**

EGE Ö., BEKTAŞ G., TURAN R.

38th European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC), Germany, 06 September 2021

IX. **Comparative Evaluation of Rear Local Contact Patterns for P-Type Mono Crystalline Silicon PERC Solar Cell**

Asav H., BEKTAŞ G., Kececi A. E., Kokbudak G., Arikan B., TURAN R.

2nd International Conference on Photovoltaic Science and Technologies, PVCon 2020, Ankara, Turkey, 30 November - 02 December 2020

## **Metrics**

Publication: 19

Citation (WoS): 70

Citation (Scopus): 95

H-Index (WoS): 4

H-Index (Scopus): 4