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Education Information

Doctorate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Mikro Ve Nanoteknoloji (Dr), Turkey 2017 - Continues

Post Graduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Mikro Ve Nanoteknoloji (YI) (Tezli), Turkey 2016 - 2017

Under Graduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, Turkey 2009 - 2014

Dissertations

Post Graduate, Surface Texturing Study with Aluminum Induced Texturing Method on Soda-Lime Glass Substrates for Thin Film Solar Cells, Middle East Technical University, Graduate School of Natural and Applied Sciences, Mikro Ve Nanoteknoloji (YI) (Tezli), 2017

Research Areas

Interdisciplinary Physics and Related Science and Technology Areas, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Intensive Article 2: Electronic Structure, Electric, Magnetic and Optical Properties

Academic Titles / Tasks

Research Assistant, Middle East Technical University, Graduate School of Natural and Applied Sciences, 2017 - Continues

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

- I. **Implementation of generalized Harvey-Shack theory in light scattering from rough surfaces**
Gunoven M., Nasser H., Ünal M., Aytekin O., Turan R., Bek A.
PHYSICAL REVIEW A, vol.102, no.6, 2020 (Journal Indexed in SCI)
- II. **Alternative HF-free etching solution for aluminum induced texturing of glass surface with improved haze**
ÜNAL M., TANKUT A., TURAN R.
MATERIALS RESEARCH EXPRESS, vol.6, no.8, 2019 (Journal Indexed in SCI)
- III. **An X-ray photoelectron spectroscopy study on the annealing effects for Al/glass Interface during aluminum induced texturing process**
ÜNAL M., Tankut A., YILDIZ İ., Sokmen I., TURAN R.

THIN SOLID FILMS, vol.640, pp.38-44, 2017 (Journal Indexed in SCI)

IV. Near-unity haze by aluminum induced glass texturing: structural evolution of Al/glass interface and its impact on texturing

ÜNAL M., Tankut A., CANLI S., TURAN R.

OPTICAL MATERIALS EXPRESS, vol.7, no.9, pp.3051-3064, 2017 (Journal Indexed in SCI)

V. Aluminum induced texturing of sandy and prism glasses: Combination of micro/nano texture with macro texture

Ünal M., Demircioglu Z., Donerscark E., Ozkol E., Turan R.

PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE, vol.214, 2017 (Journal Indexed in SCI)

Refereed Congress / Symposium Publications in Proceedings

- I. **A study on the performance the CdZnxTe1-x radiation detectors grown by vertical gradient freeze (VGF) technique**
Bender D., Turan R., Ünal M., Balbaşı Ö. B., Yılmaz E.
Seventh International Conference on Radiation in Various Fields of Research, Podgorica, Serbia And Montenegro, 10 - 14 June 2019
- II. **CdZnTe Bulk Crystal Growth and Temperature Modeling Studies at METU-CGL**
BALBAŞI Ö. B., ERGUNT Y., DOĞRU Ç., KABUKÇUOĞLU M., ÜNAL M., PARLAK M., TURAN R.
SPIE, San Diego, United States Of America, 17 September 2017 - 21 September 2018
- III. **Growth, Wafering and Surface Preparation of CdZnTe Crystals for X-ray and Gamma Ray Applications**
ÜNAL M., Bender D., BALBAŞI Ö. B., Ünal M., Kabukcuoğlu M. P., Ergunt H. Y., PARLAK M., TURAN R.
SIXTH EUROPEAN CONFERENCE ON CRYSTAL GROWTH, Varna, Bulgaria, 16 - 20 September 2018
- IV. **CdZnTe Bulk Crystal Growth and Temperature Modeling Studies at METU-CGL**
BALBAŞI Ö. B., Ergunt Y., DOĞRU Ç., Kabukcuoglu M., ÜNAL M., PARLAK M., TURAN R.
Conference on Hard X-Ray, Gamma-Ray, and Neutron Detector Physics XX, California, United States Of America, 20 - 21 August 2018, vol.10762
- V. **Optimization of chemical polishing by bromine-alcohol for detector-grade CdZnTe crystals and its effect on contacts**
ÜNAL M., Bender D., BALBAŞI Ö. B., Kabukcuoğlu M. P., Ergunt H. Y., TURAN R.
SPIE Optics Photoics - Hard X-Ray, Gamma-Ray, and Neutron Detector Physics XX, San Diego, United States Of America, 19 - 23 August 2018
- VI. **DEVELOPMENT OF TEXTURED GLASS SUBSTRATES BYALUMINUM INDUCED TEXTURING METHOD**
ÜNAL M., Günöven M., Tankut A., TURAN R.
PVCON 2018 - International Conference on Photovoltaic Science and Technologies, Ankara, Turkey, 4 - 06 July 2018
- VII. **A Light Trapping Method for Thin Film Solar Cells: Aluminum Induced Glass Texturing**
ÜNAL M., Tankut A., TURAN R.
2017 ICG Annual Meeting 32nd Şişecam Glass Symposium, İstanbul, Turkey, 21 - 25 October 2017, pp.121
- VIII. **Alüminyum İle Cam Desenleme Yönteminde Sıcaklığın Tavlama Sürecindeki Ve Aşındırma Sonrasında Desene Etkisi**
ÜNAL M., Tankut A., Sökmen İ., TURAN R.
31. Cam Sempozyumu, İstanbul, Turkey, 21 October 2016, vol.46, pp.83
- IX. **Investigation of Evaluation of Aluminum Film during Aluminum Induced Glass Texturing Process**
ÜNAL M., Aydın C., Sökmen İ., TURAN R.
21th Nanoscience and Nanotechnology Conference, Kocaeli, Turkey, 3 - 05 June 2016, pp.145
- X. **Evolution of Al/Al₂O₃ Layer on Glass Substrates during N-2 Anneal**
ÜNAL M., Tankut A., Sokmen I., Colakoglu T., TURAN R.
E-MRS Spring Meeting / Symposium T on Advanced Materials and Characterization Techniques for Solar Cells III,

Lille, France, 2 - 06 May 2016, vol.102, pp.3-10

- XI. **Evolution of Al/Al₂O₃ Layer and Na Diffusion During N₂ Anneal**
ÜNAL M., Tankut A., Sökmen İ., Çolakoğlu T., TURAN R.
European Materials Research Society Spring Meeting 2016, Lille, France, 02 May 2016
- XII. **Aluminum Induced Glass Texturing (AIT) on Soda-Lime, Borosilicate, Alkali-Free and Silica Glass For Thin Film Solar Cell Applications**
ÜNAL M., Günöven M., Tankut A., Sökmen İ., TURAN R.
31st European Photovoltaic Solar Energy Conference and Exhibition, Hamburg, Germany, 14 - 18 September 2015, pp.230-234
- XIII. **Effect of aluminum thickness and etching time of aluminum induced texturing process on soda lime glass substrates for thin solar cell applications**
ÜNAL M., Nasser H., Gunoven M., Sokmen I., Tankut A., TURAN R.
3rd Turkish Solar Electricity Conference and Exhibition (SolarTR), Ankara, Turkey, 27 - 29 April 2015, vol.12, pp.1201-1205
- XIV. **Effect of Aluminium Thickness and Etching Time Of Aluminium Induced Texturing Process On Soda Lime Glass Substrates For a-Si:H Solar Cell Applications**
ÜNAL M.
3rd Turkish Solar Electricity Conference Exhibition, Ankara, Turkey, 27 - 29 April 2015
- XV. **Soda-Kireç Cam Altlıkların İnce Film Güneş Gözeleri için Alüminyum ile Desenlendirilmesi**
ÜNAL M., Nasser H., Sökmen İ., TURAN R.
29. Cam Sempozyumu, İstanbul, Turkey, 07 October 2014, vol.44, pp.39-43
- XVI. **Aluminum Induced Nanotexturing of Glass Superstrate for Enhanced Photo-Response of a-Si:H Thin Film**
ÜNAL M.
10th Nanoscience and Nanotechnology Conference, İstanbul, Turkey, 17 - 21 June 2014

Patent

ÜNAL M., CAM YÜZEYİ DESENLEMESİ İÇİN BİR SOLÜSYON VE UYGULANMASI, Patent, CHAPTER G Physics, Initial Registration, 2016

Citations

Total Citations (WOS):12

h-index (WOS):2