

Prof. CUMALI TAV

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International Researcher IDs

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Education Information

Doctorate, University of Tennessee, Knoxville, Atom Ve Molekül, Department of Physics, United States Of America 1996 - 2000

Postgraduate, University of Wisconsin-Madison, Graduate School, Department of Physics, United States Of America 1991 - 1993

Undergraduate, Cukurova University, Fen-Edebiyat Fakültesi, Fizik Bölümü, Turkey 1985 - 1989

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, Simha-Somcynsky ve Cahn Hilliard kuramlarını kullanarak polimerlerin yüzey serbest hacim derinlik profillerinin çıkarılması, Marmara University, Faculty of Arts and Sciences, Physics, 2011

Research Areas

Natural Sciences

Academic Titles / Tasks

Professor, Marmara University, Faculty of Arts and Sciences, Physics, 2002 - Continues

Advising Theses

Yahşi U., Tav C., Statistical thermodynamics of macromolecular system in terms of simha-somcynsky theory in conjunction with lattice cluster theory = Örgü küme teorisiyle birleşimli simha somcynsky teorisinden makromoleküler sistemlerin istatistiksel termodinamiği, Postgraduate, A.Awati(Student), 2019

TAV C., YAŞI U., Automated data acquisition and analysis system for positron annihilation spectroscopy, Postgraduate, M.Adil(Student), 2019

TAV C., YAHŞI U., Katkılandırılmış PNN-PZT piezoelektrik seramiklerin pozitron yokolma (PALS) tekniğiyle incelenmesi, Postgraduate, F.Çetin(Student), 2019

Tav C., Characteristic properties of thermoplastic polyurethane/boron nitride composite using thermal and positron annihilation lifetime spectroscopy techniques, Postgraduate, M.YAVUZ(Student), 2017

Tav C., Sımha-Somcynsky kuramı kullanılarak polimerlerin Newtonyen ve Newtonyen olmayan viskoz davranışının serbest hacim cinsinden incelenmesi, Doctorate, F.DİNÇ(Student), 2013

TAV C., Tav C., Neodiyum (Nd+3) katkılı yitriyumsilikat (Nd+3 : YSO) nanofosfor sentezi, optiksel ve yapısal özellikleri, Doctorate, M.Erdem(Student), 2011

Tav C., Simha-Somcynsky ve Cahn Hilliard kuramlarını kullanarak polimerlerin yüzey serbest hacim derinlik profillerinin çıkarılması, Doctorate, S.KUZECI(Student), 2011

Tav C., Hacimsel malzemelerin hızlı nötron radyografisi ile tahribatsız analizi, Doctorate, E.KAM(Student), 2011

YAHŞI U., TAV C., Simha-somcynsky ve Cahn Hillard kuramlarını kullanarak polimerlerin yüzey serbest hacim derinlik profiline çıkarılması, Doctorate, S.Küzeci(Student), 2011

Tav C., Neodiyum (Nd+3) katkılı yitriyumsilikat (Nd3+:YSO) nanofosfor sentezi, optiksel ve yapısal özellikleri, Doctorate, M.ERDEM(Student), 2011

Tav C., Pozitron teknikleriyle polimer elektrolitlerin iletkenlik-serbest hacim ilişkisinin incelenmesi, Postgraduate, G.ERDEMCİ(Student), 2009

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **The Influence of Defects on the Structural, Optical, and Antibacterial Properties of Cr/Cu Co-Doped ZnO Nanoparticles**
Arda L., Raad Z., VEZİROĞLU S., TAV C., YAHŞI U.
Journal of Molecular Structure, vol.1320, 2025 (SCI-Expanded)
- II. **Correlation of proton conductivity and free volume in sulfonated polyether ether ketone electrolytes: A positron annihilation lifetime spectroscopy study**
Lahmuni M., Yilmazoğlu M., ABACI U., Coban O., YUMAK YAHŞI A., TAV C., YAHŞI U.
Radiation Physics and Chemistry, vol.226, 2025 (SCI-Expanded)
- III. **A novel approach for the atomic scale characterization of Li-ion battery components probed by positron annihilation lifetime spectroscopy**
Bakar R., Koc S., YUMAK YAHŞI A., TAV C., YAHŞI U.
Materials Research Bulletin, vol.180, 2024 (SCI-Expanded)
- IV. **Free-volume analysis of the structural and dielectric properties of PMMA/TeO₂ composites via positron annihilation lifetime spectroscopy**
Kuzeci S., Ozcan E., KAYA A. U., Bakar R., TAV C., YAHŞI U., ESMER K.
Journal of Alloys and Compounds, vol.1004, 2024 (SCI-Expanded)
- V. **Proton pathways via free volumes: A positron annihilation lifetime spectroscopy (PALS) investigation of proton conductivity in SPEEK-PEG-TMOS composites**
Yilmazoğlu M., ABACI U., Okkay H., Yahsi A., TAV C., YAHŞI U.
Colloids and Surfaces A: Physicochemical and Engineering Aspects, vol.687, 2024 (SCI-Expanded)
- VI. **Free-Volume analysis of PAMAM dendrimers by means of positron annihilation lifetime spectroscopy**
Yumak Yahsi A., Uzun H., Altunkaya A. N., Unalkizilirmak A., TULÜ M., TAV C., YAHŞI U.
Journal of Molecular Structure, vol.1302, 2024 (SCI-Expanded)
- VII. **Cation Vacancy-Mediated Ultrafast Hole Transport in CuBi₂O₄ Photocathodes**
Ardalı E., Jahangiri H., Solati N., YAHŞI U., TAV C., Sennaroglu A., Kaya S.
ChemSusChem, 2024 (SCI-Expanded)
- VIII. **Investigation of Nd³⁺:Y₂Si₂O₇ Phosphors Using Photoluminescence and Positron Annihilation Lifetime Spectroscopy**
Akay L. N., Kuzeci S., Akti N., Erdem M., TAV C., YAHŞI U., Eryürek G., Di Bartolo B.

Books & Book Chapters

- I. **FİZİK, Fen ve Mühendislik için Teknoloji Güncellemeli, Serway, Jewett., CİLT 1, Mekanik/Dalgalar/Termodinamik**
Yahşi U., Saçlı Ö. A., Keskin S. S., Tav C., Dumludağ F., Yumak Yahşi A., Avgın İ.
Palme Yayın Dağıtım, İstanbul, 2021

Refereed Congress / Symposium Publications in Proceedings

- I. **Some Studies Related to the Determination of Factors Affecting Positronium Formation of High Density Polyethylene (HDPE) via Positron Annihilation Lifetime Spectroscopy (PALS)**
ÖZTÜRK ŞEN B., YAHŞI U., TAV C.
ICACCHE 2nd International Conference on Applications in Chemistry and Chemical Engineering, Belgrade, Serbia And Montenegro, 10 - 14 October 2018
- II. **Correlation between Free Volume Holes and Mechanical Properties of Side Chain LCP-HDPE Graft Products**
ÖZTÜRK ŞEN B., YAHŞI U., ÇETİN S., TAV C., YENER M. Y., SOYKAN U.
ICACCHE 2nd International Conference on Applications in Chemistry and Chemical Engineering, Belgrade, Serbia And Montenegro, 10 - 14 October 2018
- III. **Ionic Conductivity of PVdF-co-HFP with Li-salts in terms of Free Volume Probed by Positron Annihilation Lifetime Spectroscopy**
YAHŞI U., TAV C., ERDEMCİ TANDOĞAN G., ÇOŞKUN B., DELİGÖZ H., YILMAZTÜRK S., YILMAZOĞLU M., ULUTAŞ H. K., DEGER D., YAKUT Ş.
Uluslararası Katılımlı VII. Polimer Bilim ve Teknoloji Kongresi, Eskişehir, Turkey, 9 - 12 September 2018
- IV. **Ionic Conductivity of PVdF-co-HFP with Li-salts In Terms of Free Volume Probed by Positron Annihilation Lifetime Spectroscopy**
TAV C., ULUTAŞ H. K., DELİGÖZ H., YILMAZOĞLU M., ULUTAŞ D., YAKUT Ş., ÇOŞKUN B., ERDEMCİ G., YILMAZTÜRK S., YAHŞI U.
Uluslararası Katılımlı VII. Polimer Bilim ve Teknoloji Kongresi (Polimer 2018), 9 - 12 September 2018
- V. **DC Conductivity, Thermal and Free Volume Properties of Thermoplastic polyurethane/boron nitride compounds**
YAHŞI U., YENER M. Y., MADAKBAŞ S., TAV C., DUMLUDAĞ F., UMER M. A.
Uluslararası Katılımlı VII. Polimer Bilim ve Teknoloji Kongresi (Polimer 2018), 9 - 12 September 2018
- VI. **Temperature and Pressure Dependent Relaxation of Polymers In Terms of Free Volume Fraction**
YAHŞI U., ÇOŞKUN B., YUMAK YAHŞI A., TAV C.
Uluslararası Katılımlı VII. Polimer Bilim ve Teknoloji Kongresi (Polimer 2018), Eskişehir, Turkey, 9 - 12 September 2018
- VII. **Investigation of a Relationship Between Free Volume and Ionic Conductivity of PVdF-co-HFP with Ionic Liquid**
YAHŞI U., TAV C., ULUTAŞ H. K., DELİGÖZ H., ÇOŞKUN B., ERDEMCİ G., YILMAZTÜRK S., YILMAZOĞLU M., ULUTAŞ D., YAKUT Ş.
The International Joint Science Congress of Materials Polymers, 25 - 28 August 2017
- VIII. **Free Volume Properties of Side Chain LCP-HDPE Graft Coproducts Probed by Positron Annihilation Lifetime Spectroscopy**
ÖZTÜRK ŞEN B., YAHŞI U., TAV C., ÇETİN S., YENER M. Y., SOYKAN U.
The International Joint Science Congress of Materials Polymers, 25 - 28 August 2017
- IX. **The Surface Gradient Profile of Free Volume of PS, PMMA, and SAN using Simha-Somcynsky and**

Cahn-Hilliard Theories

YUMAK YAŞI A., KUZECİ S., TAV C., YAŞI U.

The International Joint Science Congress of Materials Polymers, 25 - 28 August 2017

- X. **The Surface Gradient Profile of Free Volume of PS, PMMA, and SAN using Simha-Somcynsky and Cahn-Hilliard Theories**
YUMAK YAŞI A., YAŞI U., TAV C., Kuzeci S.
The International Joint Science Congress of Materials Polymers ISCMP 2017, Ohrid, Macedonia, 25 - 28 August 2017
- XI. **Investigation of relationship between Free volume and Ionic conductivity of pvdF-co-hfp with Ionic liquid**
YAŞI U., TAV C., ERDEMCİ TANDOĞAN G., çoşkun b., DELİGÖZ H., yılmaztürk s., YILMAZOĞLU M., ULUTAŞ H. K., DEĞER D., Şahin Y.
The International Joint Science Congress of Materials Polymer, 25 - 28 August 2017
- XII. **Morphology and Luminescence Characteristics of Yttriumdisilicate doped with Yb³⁺ Er³⁺ Ho³⁺ and Tm³⁺**
BOYRAZ C., ERDEM M., EKMEKÇİ M. K., TAV C., ERYÜREK G.
2 nd world congress on new technologies ICNFA, 18 - 19 August 2016
- XIII. **Pressure Effect On The Yb³⁺ Y₂Si₂O₇ Nano Powders**
ERDEM M., TAV C., MERGEN A., ERYÜREK G., BALDASSARE D. B.
International Powder Porous Materials 2015, 15 September - 18 April 2015
- XIV. **Phase dependent Spectroscopic properties of Neodymium or Erbium doped Yttriumdisilicates**
ERDEM M., EKMEKÇİ M. K., Collins J., TAV C., MERGEN A., ERYÜREK G., Di Bartolo B.
International Powder Porous Materials, 15 - 19 September 2015
- XV. **Pressure Effect On The Yb³⁺ Y₂Si₂O₇ Nano Powders International Powder Porous Materials**
TAV C., ERDEM M., ERYÜREK G., MERGEN A., Di Bartolo .
International Powder Porous Materials, 15 - 17 September 2015
- XVI. **Structural and spectroscopic properties of sol gelderived neodymium doped yttrium silicate**
ERDEM M., TAV C., ERYÜREK G.
7. Türkiye Nanobilim ve Nanoteknoloji Konferansı, Turkey, 27 June - 01 July 2011
- XVII. **Synthesis and characterization of nanocrystallineyttrium silicatematerials doped with neodymium**
ERDEM M., TAV C., ERYÜREK G.
6th Nanoscience and Nanotechnology Conference (NanoTR-VI), Turkey, 15 - 18 June 2010

Supported Projects

Tav C., Uzun H., Yumak Yaşı A., Yaşı U., Project Supported by Higher Education Institutions, Investigation of Void Structure of PAMAM Dendrimers using Positron Annihilation Lifetime Spectroscopy, 2018 - 2021

Metrics

Publication: 58

Citation (WoS): 119

Citation (Scopus): 224

H-Index (WoS): 7

H-Index (Scopus): 11