

## Prof. Rafet Yılmaz

### Personal Information

Office Phone: [+90 432 225 1698](tel:+904322251698) Extension: 27866

Office Phone: [+90 432 225 1698](tel:+904322251698) Extension: 27866

Email: [ryilmaz@yyu.edu.tr](mailto:ryilmaz@yyu.edu.tr)

Web: <https://avesis.yyu.edu.tr/ryilmaz>

### Education Information

Doctorate, Gazi University, Ankara Meslek Yüksekokulu, Turkey 2000 - 2004

Postgraduate, Van Yüzüncü Yil University, Fen Bilimler Enstitüsü -Fizik, Turkey 1992 - 1994

Undergraduate, Inonu University, Fen Edebiyat Fakültesi Fizik , Turkey 1985 - 1989

### Foreign Languages

English, B1 Intermediate

### Dissertations

Doctorate, ATOM NUMARASI 62 ? Z ? 83 ARASINDAKİ BAZI ELEMENTLERİN L TABAKASINA AİT COSTER –KRONİG ŞİDDETLİNDİRME FAKTÖRLERİ VE FLUORESANS VERİMLERİNİN ÖLÇÜLMESİ, Gazi University, Fen Bilimleri , Fizik, 2004

Postgraduate, BRUNNER MODELİ İLE 3d GEÇİŞ ELEMENTLERİNİN ELEKTRONEGATİFİĞİ, Van Yüzüncü Yil University, Fen Bilimleri , Fizik, 1994

### Research Areas

Physics, Natural Sciences

### Academic Titles / Tasks

Professor, Van Yüzüncü Yil University, Fen Fakültesi, Fizik Bölümü, 2021 - Continues

Associate Professor, Van Yüzüncü Yil University, Fizik, 2016 - 2021

Assistant Professor, Van Yüzüncü Yil University, Fen Fkültesi, Fizik, 2007 - 2016

Research Assistant PhD, Van Yüzüncü Yil University, Fen Fkültesi, Fizik, 2004 - 2007

Research Assistant, Van Yüzüncü Yil University, Fen Fkültesi, Fizik, 1991 - 2004

### Academic and Administrative Experience

Head of Department, Van Yüzüncü Yil University, Fen Fakültesi, Fizik Bölümü, 2021 - Continues

## Supervised Theses

- Yılmaz R., Calculation of photon interaction parameters of some biological tissue, Postgraduate, R.KAMARAN(Student), 2020
- Yılmaz R., Atom numarası  $40 \leq Z \leq 50$  arasındaki elementlerin L tabakasına ait x- ışınları üzerine coster-kronig geçişlerin etkisi, Postgraduate, T.ÖZMEN(Student), 2019
- Yılmaz R., Atom numarası  $22 \leq Z \leq 35$  arasındaki bazı elementlerin ikincil kaynak kullanarak K-tabakası x-ışınları tesir kesit ve flüoresans verimlerinin ölçülmesi, Postgraduate, Y.EMRE(Student), 2019
- Yılmaz R., ATOM NUMARASI  $22 \leq Z \leq 40$  ARASINDAKİ BAZI ELEMENTLER İÇİN X-IŞINI FLUORESANS TESİR KESİTLERİ VE FLUORESANS VERİMLERİNİN ÖLÇÜLMESİ, Postgraduate, H.TUNÇ(Student), 2018
- Yılmaz R., Atom numarası  $61 \leq Z \leq 71$  arasındaki elementlerin L tabakasına ait tesir kesit ve Coster-Kronig şiddetlendirme faktörlerinin hesaplanması, Postgraduate, R.TAŞ(Student), 2011
- Yılmaz R., Genelleştirilmiş model yardımıyla çift-çift çekirdeklerin uyarılmış durumlarının incelenmesi, Postgraduate, R.SÖNMEZ(Student), 2010

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

- I. **Analysis of Structural, Optical, Mechanical Properties and Evaluation of Radiation Shielding Effectiveness of Strontium Borate Glasses Doped with ZnO Nanoparticles**  
Kavgacı M., Yaykaşlı H., Eskalen H., Perişanoğlu U., Yılmaz R., Tunç H., Kavaz E.  
CERAMICS INTERNATIONAL, vol.1, pp.1-12, 2024 (SCI-Expanded)
- II. **An experimental analysis of the effects of SrO on the mechanical, structural, optical, and nuclear radiation shielding properties of barium borate glasses**  
Kavgacı M., Yaykaşlı H., Eskalen H., KAVAZ E., KALECİK S., Yılmaz R., Tunç H.  
Optical Materials, vol.149, 2024 (SCI-Expanded)
- III. **K-beta/K-alpha X-Ray Intensity Ratios for Cr, Mn, Fe, and Co Excited by 8.735 keV Energy**  
Yılmaz R.  
ACTA PHYSICA POLONICA A, vol.133, no.5, pp.1227-1230, 2018 (SCI-Expanded)
- IV. **K-beta/K-alpha X-ray intensity ratios for some elements in the atomic number range  $28 \leq Z \leq 39$  at 16.896 keV**  
Yılmaz R.  
JOURNAL OF RADIATION RESEARCH AND APPLIED SCIENCES, vol.10, no.3, pp.172-177, 2017 (SCI-Expanded)
- V. **Calculation of Coster-Kronig Enhancement Factors of the Some Elements in the Atomic Number Range  $50 \leq Z \leq 59$**   
Yılmaz R.  
ACTA PHYSICA POLONICA A, vol.130, no.6, pp.1269-1272, 2016 (SCI-Expanded)
- VI. **Measurements of K-shell X-ray production cross-sections and fluorescence yields for some elements in the atomic number range  $28 \leq Z \leq 40$**   
Yılmaz R., Tunc H., Ozkartal A.  
RADIATION PHYSICS AND CHEMISTRY, vol.112, pp.83-87, 2015 (SCI-Expanded)
- VII. **Measurements of K-shell X-ray production cross-sections and fluorescence yields for Cr, Mn, Fe and Co elements**  
Yılmaz R.  
RADIATION PHYSICS AND CHEMISTRY, vol.96, pp.1-4, 2014 (SCI-Expanded)
- VIII. **Infrared Spectra, Density Functional Theory and Hartree-Fock Theoretical Calculations of 2-Methyl-8-quinolinol**  
Arici K., Yılmaz R.  
ASIAN JOURNAL OF CHEMISTRY, vol.25, no.13, pp.7106-7114, 2013 (SCI-Expanded)
- IX. **Measurements of L-2,L-3 subshells X-ray production cross-sections and average L-2,L-3 subshells fluorescence yield values of some elements in the atomic number range  $70 \leq Z \leq 78$**   
Yılmaz R.

- RADIATION PHYSICS AND CHEMISTRY, vol.81, no.10, pp.1539-1542, 2012 (SCI-Expanded)
- X. **Calculation of Coster-Kronig Enhancement Factors For Nd-60 and Pm-61 at Different Excitation Energies**  
Yilmaz R., Tas R., Babayigit R., Arici K.  
ASIAN JOURNAL OF CHEMISTRY, vol.23, no.7, pp.3148-3150, 2011 (SCI-Expanded)
- XI. **Measurements of Coster-Kronig enhancement factors for Tm-69**  
Yilmaz R., ARICI K., ÖZ E., Tan M.  
JOURNAL OF ELECTRON SPECTROSCOPY AND RELATED PHENOMENA, vol.184, pp.1-4, 2011 (SCI-Expanded)
- XII. **Calculation of Coster-Kronig Enhancement Factors and L Subshell X-Ray Fluorescence Cross-Sections for Cs-55**  
Yilmaz R., Arici K.  
ASIAN JOURNAL OF CHEMISTRY, vol.22, no.7, pp.5463-5467, 2010 (SCI-Expanded)
- XIII. **Measurements of Coster-Kronig enhancement factors for Yb, Lu, Os and Pt elements**  
Yilmaz R., Oz E., Tan M., Durak R., Demirel A. I., Sahin Y.  
RADIATION PHYSICS AND CHEMISTRY, vol.78, no.5, pp.318-322, 2009 (SCI-Expanded)
- XIV. **Granularity aspect of the high temperature superconductivity (HTSC) materials made by metal organic chemical vapour deposition method**  
Demirel A. İ., Yilmaz R., Araso Ğ Lu A., ZHRIR A. D.  
Indian Journal of Pure and Applied Physics, vol.38, no.12, pp.815-820, 2000 (SCI-Expanded)
- XV. **Chemical effects on the K-beta/K-alpha intensity ratios in first-row transition element compounds**  
Kucukonder A., Buyukkasap E., Yilmaz R., Sahin Y.  
ACTA PHYSICA POLONICA A, vol.95, no.2, pp.243-250, 1999 (SCI-Expanded)

## Articles Published in Other Journals

- I. **A SURVEY OF THE PREVALENCE AND GENOTYPES OF CRYPTOSPORIDIUM SPP. AND GIARDIA DUODENALIS IN SHELTER DOGS IN BATMAN, TURKEY**  
Aslan Çelik B., Yilmaz R., Çiftçi T., Çelik Ö., Ayan A., Orunç Kılınç Ö., AKYILDIZ G., Ercan K., Oktay Ayan Ö.  
Bulgarian Journal of Veterinary Medicine, vol.27, no.4, pp.632-638, 2024 (Scopus)
- II. **PHOTON INTERACTION PARAMETERS OF SOME CHEMICAL COMPOUNDS FOUND IN HARD TISSUE**  
Yilmaz R., Salih D. S.  
Polytechnic Journal, vol.13, no.1, pp.46-51, 2023 (Peer-Reviewed Journal)
- III. **Calculation of the infrared spectrum of 4-Cyanostyrene by Hartree-Fock (HF) and Density Functional Theory (DFT)**  
Yilmaz R., Arıcı K.  
International Journal of Chemistry and Technology, vol.4, no.2, pp.156-161, 2020 (Peer-Reviewed Journal)
- IV. **Variation of Coster-Kronig enhancement factors at different excitation energies of the elements in the atomic number range 41  $Z$  49**  
Yilmaz R., Özmen T., Çakır T.  
International Journal of Chemistry and Technology, vol.3, no.2, pp.101-112, 2019 (Peer-Reviewed Journal)
- V. **Measurements of K- shell X-ray production cross-sections and fluorescence yield for 31Ga element**  
Yilmaz R., Aksöz Y. E.  
IOSR Journal of Applied Physics, vol.10, no.6, pp.17-20, 2018 (Peer-Reviewed Journal)
- VI. **Measurement of K-shell production cross-section and fluorescence yield for Y element**  
Özkartal A., TUNÇ H., Yilmaz R., ÖZMEN T.  
AMERICAN JOURNAL OF PHYSICS AND APPLICATION, vol.3, pp.1-5, 2015 (Peer-Reviewed Journal)
- VII. **Resistivity properties of superconducting materials (Ba/K) BiO<sub>3</sub> in magnetic field. Bulletin of Pure and Applied Sciences. Vol:18 D No:1 (1999) P.13-16**  
DEMİREL A., Yilmaz R.  
Bulletin of Pure and Applied Sciences, vol.18, pp.13-16, 1999 (Peer-Reviewed Journal)

## Papers Published in Refereed Scientific Meetings

- I. **Effective Atomic Number and Electron Intensity of Some Compounds Found in Bone**  
Yılmaz R., Salami D.  
4th International Conference on Physical Chemistry and Functional Materials (PCFM'21) April 08-09, 2021 Fırat University, Elazığ-Turkey, Elazığ, Turkey, 8 April - 09 May 2021, pp.125-126
- II. **Effect of Coster-Kronig Transitions to X-rays in L Shell for 65 Tb Element**  
Yılmaz R., Salami D.  
4th International Conference on Physical Chemistry and Functional Materials (PCFM'21) April 08-09, 2021 Fırat University, Elazığ-Turkey, Elazığ, Turkey, 8 - 09 April 2021, pp.29-30
- III. **June 25-27, 2019,**  
Yılmaz R.  
2nd International Conference on Physical Chemistry and Functional Materials (PCFM'19)-June 25-27, 2019, Cappadocia-Turkey, Nevşehir, Turkey, 25 - 27 June 2019, pp.35-36
- IV. **Determination of Photon Absorption Characteristics of Soft Tissue**  
Yılmaz R., Fattah R.  
2nd International Conference on Physical Chemistry and Functional Materials (PCFM'19)-June 25-27, 2019, Cappadocia-Turkey, Nevşehir, Turkey, 25 - 27 June 2019, pp.1-2
- V. **X-Ray Intensity Ratios for the Some Elements in the Atomic Number Range  $22 \leq Z \leq 35$**   
YILMAZ R.  
International Conference on Physical Chemistry and Functional Materials(PCFM'18)-June 19-21, 2018, Fırat University, Elazığ-Turkey, 19 - 21 June 2018
- VI. **Measurements of K Shell X-Ray Production Cross-Sections and Fluorescence Yields for the Some Elements in the Atomic Number Range  $22 \leq Z \leq 35$**   
YILMAZ R.  
International Conference on Physical Chemistry and Functional Materials(PCFM'18)-June 19-21, 2018, Fırat University, Elazığ-Turkey, 19 - 21 June 2018
- VII. **Measurements of Atomic L Subshell Production Cross-Section and Fluorescence Yields for Pt element**  
Aksöz Y. E., Yılmaz R.  
Türk Fizik Derneği 33.Uluslararası Fizik Kongresi, Muğla, Turkey, 6 - 10 September 2017, vol.1, no.1, pp.566
- VIII. **Measurements of K Alfa X-Ray Production Cross-Sections and Fluorescence Yields for Zn, Ga, As and Se at 13.597 keV**  
Aksöz Y. E., Yılmaz R.  
Türk Fizik Derneği 33.Uluslararası Fizik Kongresi, Muğla, Turkey, 6 September - 10 October 2017, vol.1, no.1, pp.566
- IX. **Measurements of K alfa-shell X-ray production cross-sections for some elements in the atomic number range  $28 \leq Z \leq 40$**   
Yılmaz R., TUNÇ H.  
Turkish Physical Society 30.International Physics Conference İstanbul, Türkiye , semtember (2013).2, İstanbul, Turkey, 1 - 06 September 2014, pp.465
- X. **Measurements of X-ray fluorescence cross-sections for  $^{32}\text{Ge}$ ,  $^{29}\text{Cu}$ ,  $^{26}\text{Fe}$  and  $^{24}\text{Cr}$  at 11.372 keV.**  
Yılmaz R.  
Turkish Physical Society 30.International Physics Conference İstanbul, Türkiye , semtember (2013)., İstanbul, Turkey, 4 - 08 September 2013, pp.357
- XI. **Measurement of L shell X-ray fluorescence intensity ratios for  $^{69}\text{Tm}$  by photoionization of consecutive L- subshells ,**  
Yılmaz R.  
Turkish Physical Society 30.International Physics Conference İstanbul, Türkiye , semtember (2013)., İstanbul, Turkey, 4 - 08 September 2013, pp.355
- XII. **Effect of Coster-Kronig Transitions on X-ray fluorescence cross-sections for  $^{74}\text{W}$  at different**

**excitation energy ,**

Yılmaz R.

Physical Society 30.International Physics Conference İstanbul, Türkiye , semtember (2013), İstanbul, Turkey, 4 - 08 September 2013, pp.356

- XIII. **Measurements of atomic L subshell fluorescence cross-section and fluorescence yields for 71Lu ,**  
Yılmaz R.  
Turkish Physical Society 29.International Physics Conference , Bodrum, Türkiye , Semtember (2012), Muğla, Turkey, 1 - 04 September 2012, pp.467
- XIV. **Measurements of K X-ray fluorescence cross-sections for Cr, Mn, Fe and Co elements at 8.735 keV ,**  
Yılmaz R.  
Turkish Physical Society 29.International Physics Conference , Bodrum, Türkiye , Semtember 2012, Muğla, Turkey, 1 - 04 September 2012, pp.466
- XV. **Effect of Coster-Cronig Transitions on X-Ray fluorescence cross-section for 58Ce ,**  
Yılmaz R.  
Turkish Physical Society 29.International Physics Conference , Bodrum, Türkiye , Semtember (2012), Muğla, Turkey, 1 - 04 September 2012, pp.465
- XVI. **Measurements of Atomic Shell Auger Yields for 76Os ,**  
Yılmaz R.  
Physical Society 28.International Physics Conference , Bodrum, Türkiye , Semtember (2011, Muğla, Turkey, 03 September 2011 - 04 September 2012, pp.438
- XVII. **Measurement of K alfa X-Ray fluorescence Cross-Sections for Some Elements the Atomic Number Range 24?Z?30 ,**  
Yılmaz R.  
Physical Society 28.International Physics Conference , Bodrum, Türkiye , Semtember (2011, Muğla, Turkey, 3 - 06 September 2011, pp.434
- XVIII. **Effect of Coster-Kronig Transitions on X-Ray fluorescence cross-sections for 59Pr ,**  
Yılmaz R.  
Turkish Physical Society 28.International Physics Conference , Bodrum, Türkiye , Semtember (2011), Muğla, Turkey, 3 - 06 September 2011, pp.433
- XIX. **Calculation of Coster-Kronig enhancement factors for Ba ,**  
Yılmaz R.  
Turkish Physical Society 27.International Physics Conference , İstanbul, Türkiye , Semtember (2010), İstanbul, Turkey, 1 - 04 September 2010, pp.423
- XX. **Calculation of Coster 'Kronig enhancement factors for Pm at different excitation energies ,**  
Yılmaz R.  
Turkish Physical Society 27.International Physics Conference , İstanbul, Türkiye , Semtember (2010), İstanbul, Turkey, 1 - 04 September 2010, pp.424
- XXI. **Average 2P subshells Fluorescence Yield Values for Lu and Os ,**  
Yılmaz R.  
Turkish Physical Society 27.International Physics Conference , İstanbul, Türkiye , Semtember (2010), İstanbul, Turkey, 1 - 04 September 2010, pp.422
- XXII. **Measurement of Atomic L Shell Fluorescence and Auger Yields for 69Tm ,**  
Yılmaz R.  
Turkish Physical Society 26.International Physics Conference , Bodrum, Türkiye , August(2009), Muğla, Turkey, 1 - 06 September 2009, pp.355
- XXIII. **Calculation of X-ray fluorescence cross-sections and Coster 'Kronig enhancement factors for 57La ,**  
Yılmaz R.  
Turkish Physical Society 26.International Physics Conference , Bodrum, Türkiye , August (2009), Muğla, Turkey, 1 - 06 September 2009, pp.356
- XXIV. **Measurement of Atomic L Shell Coster-Kronig Yields( $f_{12}$ ,  $f_{23}$  and  $f_{13}$ ) for Tm Element ,**  
Yılmaz R.

Turkish Physical Society 25.International Physics Conference , Bodrum, Türkiye , August (2008), Muğla, Turkey, 1 - 06 September 2008, pp.357

XXV. **Measurements of Coster-Kronig Enhancement Factors for Tm Element ,**  
Yılmaz R., ÖZ E., TAN M.

6 the International Conference of the Balkan Physical Union , İstanbul, Türkiye , Ağustos (2006, İstanbul, Turkey, 22 - 26 September 2006, pp.675

XXVI. **Süper iletken Filmlerin Karakterize Edilmesinde Ölçüm Tekniđi**  
DEMİREL A. İ., Yılmaz R., ÖZDURAN M.

TFD.19.Fizik Kongresi,, Elazığ, Turkey, 26 September 2000, pp.200

XXVII. **Brunner Modelini Kullanarak 3d Geçiş Elementlerinde K $\beta$ /K $\alpha$  Şiddet Oranlarının Hesaplanması.**  
KÜÇÜKÖNDER A., Yılmaz R.

TFD.16. Fizik Kongresi,, Muğla, Turkey, 26 - 29 September 1996, pp.265

## Supported Projects

Yılmaz R., YAYKAŞLI H., KAVAZ PERİŞANOĞLU E., Tunç H., Project Supported by Higher Education Institutions, Oksit Nitrit ve Karbür Katkılı Yeni Yüksek Entropili Kompozit Malzemelerin Nükleer Radyasyon Zırhlama Özelliklerinin Araştırılması, 2024 - Continues

## Peer Reviews in Scientific Publications

International Journal of Chemistry and Technology, Journal Indexed in ESCI, July 2018

CANADIAN JOURNAL OF PHYSICS, SCI Journal, October 2016

RADIATION PHYSICS AND CHEMISTRY, SCI Journal, August 2012

## Metrics

Publication: 53

Citation (WoS): 46

Citation (Scopus): 51

H-Index (WoS): 5

H-Index (Scopus): 5