Curriculum Vitae

(C. V)

1. *Personal Data*

Name :Ehsan Abdel haleem Ahmed Gomaa

Date and Place of Birth : 17/1/1962 – Aswan, Egypt.

Institution Address : Physics Dep., Faculty of Science, Ain Shams University, Abbassia, Cairo, Egypt.

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2nd Language : English.

2. *Education* (begin with the last acquired degree)

Degree	Specialization	University College and Country	Date
Ph. D	Experimental Nuclear Physics "Application of Positron Annihilation Lifetime Technique to the Study of Polymers and Minerals".	Faculty of Science, Ain Shams University, Cairo, Egypt.	22/10/1997
M.Sc	Theoretical Nuclear Physics. " Fission Mechanism Induced by High Energy Nucleus-Nucleus Reactions".	Faculty of Science, Ain Shams University, Cairo, Egypt.	20/2/1990
B. Sc	Special Physics	Faculty of Science, Ain Shams University, Cairo, Egypt	9/8/1984

Occupations

1. Bachelor's degree: B.Sc. in Physics – 9 /8/ (1984)
2. Assistant Lecturer: Master degree (M.Sc.) in 20/2/ (1990)
3. Assistant Prof.: Doctoral degree (Ph.D.) in 22/10/(1997) [24/11/1997]
4. Professor :23/11/ (2009)

Discipline (Major Field)

Nuclear and Radiation Physics

Specialization (Minor Field)

Application of Nuclear Techniques to materials and radiation sciences.

3. Current Position : Professor – Physics Dep., Faculty of Science, Ain Shams University.

4. Professional Experience:

- Teaching: Nuclear Physics., Modern Physics, Thermodynamics, Electricity, Nuclear Reactors, Radiation Protection, Radiation Measurements, Atomic Physics, Classical Mechanics, Neutrons Physics, Radiation Protection and Safety.
- Ph. D. and M. Sc. Supervision.

5. Membership in Professional Associations:

- Egyptian Society of Nuclear Science and Applications (ESNSA).
- Egyptian Society of Materials Reacher's (ESMS).
- Consultant Unit for Material Properties and Environmental Radiation Studies(CUMPERS). [Physics Dep., Faculty of Science, Ain Shams University].

***6. Membership in National Committees*:**

- National Committee for Application of Positron Annihilation Spectroscopy to Study defects in materials.

- **Scientific Visits**

- IRI, Delft Univ. of technology, Delft Netherlands- Ph.D. promotion, **(Channel), 1994-1996**

7. Attended International Conferences:

- 5 th International Workshop on Positron and Positronium Chemistry, PPC5 (Lillafured, 9 – 14 June 1996, Hungary).

- 12 th International Conference on Positron Annihilation, ICPA-12, (Munchen, 6 – 12 August 2000, Germany).
- The XXIII International Conference on Solid State Science & Workshop on Physics and Application Potential of Functional Ceramic Thin Films (Sharm El-Sheikh, Sinai, 28 Sept. – 2 Oct. 2002, Egypt).
- 10 th International Workshop on Slow Positron Beam Techniques for Solids and Surfaces, SLOPOS-10, (Doha, 19 – 25 March 2005, Qatar).
- Workshop& Training School in Cheap Plasma Technology Applications in Industry and Environment, (Al-Azhar University Center of Plasma Technology, 8 -14 November 2005, Cairo, Egypt).
- 2006 Beijing International Materials Week, 25 – 30 June 2006, Beijing International Convention Centre, China.
- The 26th Conference of Solid State Physics & Material Science 10-14 September 2006, Alexandria, Egypt.
- Workshop on Nanostructures: Science, Fabrication, Characterization& Devices. Seminar on: Pre-University Science Education.
- Woman in Physics Cairo, Egypt 17- 19 March 2007.
- International Conference on Nanotechnology: Opportunities and Challenges (ICON 008), Jeddah, Saudi Arabia, 17 -19 June 2008.
- Taibah International Chemistry Conference-2009, Al-Madinah Al-Munawara, Saudi Arabia. 23 – 25 March 2009.
- One Day Workshop on positron Annihilation in Materials and Nuclear medicine (PET) Ain shams University, Cairo , Egypt. 27 Feb. 2010.
- One Day Workshop on Large Hadron Collider (LHC), Ain Shams University, Cairo , Egypt, 23 October 2010.
- August 24 – 27, 2014 BEXCO, Busan, South Korea. The 2014 World Congress on Advanced in Civil, Environmental, Materials Research (ACEM14).
- Frontiers in Polymer Chemistry & Biopolymers (Polymer Chemistry 2019), Rome, Italy, Nov 18-19, 2019.

8. List of Publications:

1. Dynamics and mass yield distribution of high energy nucleus-nucleus collisions.

   M. Shalaby, H. Khalil, S. K. Hindawi, E. A. Gomaa.

   Acta Phys. Slov. 43 (5), 333-344 (1993).

2. Effect Of Electric Field Strength and Exposure Time On Epoxy And High Density Polyethylene Measured By PAL.

   E. Gomaa, H. Schut, A. van Veen, M. Mohsen, U. Fromm, P. Morshuis.

   Journal of radioanalytical and nuclear chemistry, Articles, Vol. 211, No. 1, 77 - 83, (1996).

3. Dehydration Of Gypsum Studied by Positron Annihilation Lifetime Technique.

   M. Mohsen, E. Gomaa, H.Schut , A. van Veen.

   Materials Science Forum, Vols. 255-257, 402-404, (1997).

4. Positron Annihilation Lifetime Studies of Gas Sorption and Desorption In Polyethylene And Poly[1-(Trimethylsilyle)-1-Propyne.

   M. Mohsen, E. Gomaa, H.Schut , A. van Veen.

   Journal of Applied Polymer Science, Vol. 80, 970-974, (2001).

5. The Use Of Positron Annihilation Lifetime Technique To Study The Effect Of Doping Metal Salts On Polyhydroxamic Acid Polymers.

   Mazzroua, N. Mostafa, E. Gomaa, M. Mohsen.

   Journal of Applied Polymer Science, Vol. 81, 2095-2101, (2001).

6. Effect Of Doping Pol (Methyl/Methacrylate) With Metal Salts As Studied By Positron Annihilation Lifetime Spectroscopy.

   E. Gomaa and A. Mazzroua.

   Journal of Polymer Materials, 19, 201-204, (2002).

7. Comparison Between the Effects of Alcohols And Diols On Polymethyl Methacrylate And Polyacrylamide With Positron Annihilation Lifetime And Electric Conductivity Measurements.

E.Gomaa, A. Mazzroua, M. Mohamed.

Journal of Applied Polymer Science, Vol. 88, 3078-3083, (2003).

8. Application Of Positron Annihilation Spectroscopy to Study the Recovery of Commercial Pure Al and Al-0.96 wt% Si Alloys.

   S. Mohamed, N. Mostafa, E. Gomaa, M. Mohsen.

   Journal of Materials Engineering and Performance, Vol.12 (1), 95-98, (2003).

9. A Study of Annealing Stages In Al-Mn (3004) Alloy After Cold Rolling Using Positron Annihilation Lifetime Technique And Vickers Micro hardness Measurements.

   E. Gomaa, M. Mohsen, A.S. Taha, M.M. Mostafa.

   Materials Science and Engineering A362, 274-279, (2003).

10. A Study on Commercial Pure Al (1050) After Cold Rolling At Room Temperature With Various Deformations Using Positron Annihilation.

    E. Gomaa, N. Mostafa, M. Mohsen, A.S. Taha.

    Journal of Materials Engineering and Performance, Vol.12 (2), 190-195, (2003).

11. Correlation Of Thermo-Mechanical Properties with Microstructure in Commercial Pure Cu and Cu-Zn Alloys.

    N. Mostafa. E. Gomaa, M. Mohsen.

    Materials Science and Engineering A, Vol. 373, 250 – 254, (2004).

12. Correlation Between Free Volume Parameters and Mechanical Properties Of Polyethylene-Nitrile Rubber Blend.

    E. Gomaa, N. Mostafa, M. Mohsen, M. Mohamed.

    Journal of Materials Engineering and Performance, October 13(5) (2004)513.

13. Effect Of Rare Earth Substitution on Some Properties Of Mn-Zn Ferrite Studied By Positron Annihilation Lifetime Spectroscopy.

Samy, N. Mostafa, E. Gomaa.

Applied Surface Science, Vol. 252 (9) (2005)3323-3326.

14. Correlation Of Mechanical Properties with Defect Structure In Commercial Pure Al And Al-Mn Alloys Studied By PAS.

    E. Gomaa, M. Mostafa, M. Mohsen, A. S. Taha.

    Materials Science Forum Vols. 546-549, 783-787, (2007).

15. Free-Volume Changes At Nanoscale In Doped Polyacrylic Acid Studied By Positron Annihilation Spectroscopy.

    E. Gomaa

    Physica B: Condensed Matter, 390, 203-208, (2007).

16. Microstructure And Miscibility Of NBR/EPDM Blends Studied By Positron Annihilation Spectroscopy.

    E. Gomaa

    Journal of Applied Polymer Science, Vol. 105, 2564-2570, (2007).

17. Effect Of Metal Type and Content On Mechanical, Electrical And Free-Volume Properties Of Styrenated Polyesters.

    S.H. Mansour, E. Gomaa, I. K. Bishay.

    J. Mater. Sci 42, 8473-8480, (2007).

18. Free-Volume Properties of Epoxy Composites and Its Relation to Macrostructure Properties.

    J. N. Asaad, E. Gomaa, I. K. Bishay.

    Material Science Engineering A 490, 151-156, (2008).

19. The Effect of Some Solvents On The Thermal And Free-Volume Properties Of Poly 4-Vinylpyridine Complexes.

    Mazzroua and E. Gomaa.

    Journal of Applied Polymer Science, Vol. 110 (1) (2008), 331- 340.

20. Positron Annihilation Lifetime And Differential Scanning Calorimetric Study Of Immiscible NBR/PE Blends.

E. Gomaa, E. Hassan Aly, M. Mohsen

Journal of Polymer Science: Part B: Polymer Physics, Vol.47, (2009), 227-238.

21. Effect of Deformation and Physical Aging On Nano-Scale Free Volumes In Polycarbonate Studied By Positron Annihilation Lifetime Spectroscopy.

M. Mohsen, E. Gomaa, M. Sharaf, H. Salem, W. Gomaa

Int. J. Nano and Biomaterials, Vol. 2, Nos. 1/2/3/4/5, 2009.

22. Study Of Electrical, Mechanical, And Nanoscale Free-Volume Properties of NBR And EPDM Rubber Reinforced By Bentonite Or Kaolin.

D. E. El-Nashar, E. Gomaa, S. L. Abdel-Messieh.

Journal of Polymer Science: Part B: Polymer Physics, Vol. 47, (2009), 1825 - 1838.

23. Study The Properties Of Cu-Zn Ferrite Substituted With Rare Earth Ions By Using Positron Annihilation Analysis.

A.M. Samy, E. Gomaa, N. Mostafa.

The Open Ceramic Science Journal, 2010, 1, 1 - 4.

24. The Variations In Thermal And Nano Free-Volumes Properties Of Some γ-Irradiated Hydrogels.

M. Mohsen, E. Hassan Aly, E. Gomaa, El- Sayed .A. Hegazy , Gh. A. Mahmmoud.

Journal of Materials Science and Engineering, 2010, 4 (11), 75 - 84.

25. Effect of Adding Feldspar on Free Volume Properties of Crosslinked Polyester Studied By Positron Annihilation Lifetime Spectroscopy.

E. Gomaa and J. N. Asaad

Journal of Applied Polymer Science, Volume 124, Issue 4, pages 3142–3146, 15 May 2012.

26. Nanostructure And Magnetic Properties of Nickel Doped Zinc Oxide Nano-Powder Prepared By Copreciptation Method.

    M. Mohsen, E. Gomaa, E. Hassan Aly, M. Essam, M. M. Elokar.

    Egyptian Journal of Solids, Vol. 35, (2012), 5 -14.

27. Effect Of Nickel Content On Mechanical, Electrical, Thermal And Free-Volume Properties Of PVC Composites.

    J. N. Asaad, I. K. Bishay, E. Gomaa, S. L. Abd-El-Messieh.

    KGK, Volume 66, Issue 3, Pages 45 – 50, March (2013).

28. Dielectrics Properties and Positron Annihilation Study Of Waste Polyethylene Terphthalate Composites Filled with Carbon Black.

    A.A. Reffaee, A.A. Ward, D.E.El-Nashar, S.L.Abd-El-Messieh, K.N.Abdel Nour, E. Gomaa, H.A.Zayed.

    KGK, Volume 4,, April (2014), 39 - 47.

29. Free-Volume Changes In EVA Composites Studied By Positron Annihilation Lifetime Technique.

    E. Hassan Aly, S. H. Mansour, E. Gomaa, R. Krause-Rehberg.

    KGK, 4, (2015), 33 -37.

30. Characterization Of Some Hydrogels Used In Water Purification: Correlation Of Swelling And Free- Volume Properties.

    M. Mohsen, N.A. Maziad, E. Gomaa, E. Hassan Aly, R. Mohammed

    Open Journal of Organic Polymer Materials, 5 (2015), 43-52.

31. The Study Of Microstructure And Creep Properties Of Cu-Doped Sn-4wt%Ag And Sn-9wt%Zn Lead Free Solders With Annealing Temperature.

    A. Yassin, E. Gomaa

    Physics Journal, 1 (2) (2015), 163-171.

32. Radiation Copolymerization of Hydrogels Based in Polyacrylic Acid/Polyvinyl Alcohol Applied in Water Treatment Processes.

    N.A. Maziad , M. Mohsen , E. Gomaa and R. Mohammed

Journal of Materials Science and Engineering A 5 (11-12) (2015).

33. Positron Annihilation Lifetime And Fourier Transform Infrared Spectroscopic Studies On $Bi_2O_3 – B_2O_3$ Glasses.

    M. Mohsen, E. Gomaa, M. S. Al-Kotb, M. Abdel-Baki, N. Fathy

    Journal of Non-Crystalline Solids 436 (2016) 1–8.

34. Effect of aluminum and aluminum/nickel hybrid fillers on the properties of epoxy composites.

    N. N. Rozik, J. N. Asaad, S. H. Mansour, E. Gomaa

    Journal of Materials: Design and Applications: Part L 230 (2) (2016) 550-557.

35. The Effect Of Nickel Doping On The Structural, Defect Structural, Optical And Magnetic Properties Of Zinc Oxide Nanoparticles.

    M. Mohsen, M. El Okr, E. Gomaa, E. Hassan Aly, M. Essam.

    Scientific Journal of Review, 5(3) (2016) 360-370.

36. Study on poly (ethylene-co-vinyl acetate), acrylonitrile butadiene copolymer, and their blend reinforced with carbon black using position annihilation lifetime spectroscopy.

    E. Gomaa, S. H. Mansour, J. N. Asaad & E. Hassan Aly

    Plastics, Rubber and Composites, 45: 10 (2016) 423-429.

37. Free Volumes and their Distribution in SiR / EPDM Rubber Blends probed by Positron Annihilation Lifetime Technique.

    E. Gomaa, E. Hassan Aly, J. N. Asaad.

    KGK, 5, 2017, 33- 36.

38. Synthesis and characterization of organic montmorillonite-polyvinyl alcohol-co-polyacrylic nanocomposite hydrogel for heavy metal uptake in water.

    Mona Mohsen, Ehsan Gomaa, Nabila Ahmed Mazaid, and Reem Mohammed.

    AIMS Materials Science, 4(5) (2017): 1122-1139.

39. Gamma-Radiation Induced Copolymerization of Sodium Alginate Acrylamide for Application in Water Decontamination of Some Heavy Metals.
Ehsan Gomaa, Nabila Ahmed Mazaid, Mona Mohsen, Reem Mohamed.
SF J Poly Sci, 2017, 1:1.

40. Characterization of free-volume parameters of PVC composites by means of positron annihilation lifetime spectroscopy.
E. Gomaa and E. Hassan Aly.
SF J Poly Sci, 2018, 1:2.

41. Effect of graphite and copper nanoparticles on free volume properties of PVC/NBR blends studied by PAL spectroscopy.
E. Gomaa and E. Hassan Aly.
Mod Chem Appl, Vol. 7 Iss. 2 No: 269, 2019.

42. Green ZnO nanorod material for dye degradation and detoxification of pharmaceutical wastes in water.
Reem Mohammed, Mohamed Eid M. Ali, E. Gomaa, M. Mohsen.
Journal of Environmental Chemical Engineering 8 (2020) 104295

43. Highly stable, reusable, and MW-assisted prepared ZnO nanorods for wastewater decontamination: Precursor's ratios effect and insights on matrix and pollutants mineralization.
Reem Mohammed, Mohamed Eid M. Ali, E. Gomaa, M. Mohsen
Journal of Environmental Chemical Engineering 9 (2021) 104630.

9. Editorial Board Members and Reviewers.

1. **SciFed Journal of Polymer Science.**
2. **Journal of Materials Science and Engineering A-David Publisher Company.**
ISSN: 2161-6213
Website: http://www.davidpublisher.com/Home/Journal/JMSE-A

10. Short Courses to improve the skills of teaching staff.

1. Techniques for using an application MICROSOFT TEAMS: 10 April 2021.
2. Developing the competencies of department heads in universities: March 2016
3. Problem Solving and Decision Making: 7 – 10 May 2005.
4. The Modern Methods of Teaching: 14 – 17 May 2005.
5. Ethics and Morality of Work: 20 – 22 May 2006.
6. Evaluation of Teaching: 3 – 5 June 2006.
7. Administrating Scientific Research: 18 – 20 November 2006.
8. The Use of Technology in Teaching: 2 -4 June 2007.
9. The Economics of Marketing and Financing of Scientific Research: 5 – 7 June 2007.
10. Decision-making and problem-solving: 7 – 10 May 2005.
11. University teacher preparation: 1 -23 Sept. 1991.

11. Projects:

1. Study of the effect of gamma irradiation of some polymers used in the remediation treatment of waste water (2004-2007)
2. Structural study of some nanomaterials for application in solar cells (2008-2011):
3. Preparation of dilute magnetic semi-conductors based on ZnO in nanoparticle form (2014).
4. Novel Hybrid ZnO-based Nanocomposite as Photocatalyst For Wastewater Decontamination (2019).
5. Project Title: Novel Hybrid ZnO based Nanocomposite as Photocatalyst For Wastewater Decontamination (24/10/2019-24/10/2020). (Financial support: the Science and Technology Development Fund (STDF) for of this research).

12.Supervision Thesis

Name	Organization	Title	Year
Mahmoud El Massrany	Egypt Airport	Study Of Mechanical Properties And Recover Stages In The Recrystallization Process For Some Aluminum Alloys.	Awarded 2004
Waled Gomaa	Egypt Airport	Correlation of The Mechanical Properties And Nano-Free Volumes In Glassy Polymers	Awarded 2008
Naglaa Fathy Osman	Faculty of Engineering Modern Academy	Study Of The Correlation Between Optical Properties And The Variations Of Nano-Scale Free Volume In Bismuth Borate Glasses.	Awarded 2014
Mohammed Essam	Faculty of Engineering Modern Academy	Study And Preparation Some Nano-Oxide	Awarded 2014
Reem Mohammed	Faculty of Science Ain Shams University	Radiation Copolymerization Of Micro And Nano size Polymers And Their Application In Waste Water Decontamination.	Awarded 2016
Reem Mohammed	Faculty of Science Ain Shams University	Synthesis and Characterization of Nanocomposites As Smart Photocatalyst For Wastewater Decontamination	Awarded 2021