

## CURRICULUM VITAE

**Name** : Naser Saleh Khaled  
**Date of Birth** : November 17, 1948  
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**Present Rank** : Professor  
**Date of Rank** : May 8, 1988  
**Language Skills** : Arabic & English



### Education

- IAEA Certificate, Analytical Nuclear Physics, 1980
- Ph.D. in Physics, University of Cincinnati, Ohio (USA), 1978
- M.Sc. in Physics, American University of Beirut, (Lebanon), 1972
- B.Sc. in Physics, The University of Jordan, (Jordan), 1970

### Awards and Prizes

- American University of Beirut, Teaching Assistant (1970-1972)
- Agency for International Development (AID) award for Ph.D. studies (1973-1977)
- University of Cincinnati, Ohio, Graduate Teaching Assistantship (1977- 1978)
- Shuman - Prize in Physics for Young Arab Scientists (1987)

### Research Fellowships

- Research Fellow, International Atom Energy Agency (IAEA), Lund Institute of Technology, Lund, Sweden (January -July) 1980
- Research Fellow, Germany Academy of Exchange (DAAD), Karlsruhe Research Center, Germany, Summer 1986

## **Employment**

- 2002- present**      President, Al-Zaytoonah University of Jordan
- 2001- 2002**      Professor of Physics  
Department of Physics, University of Jordan  
Amman - Jordan
- 1998- 2001**      Vice – President  
AL al-Bayt University  
Mafraq - Jordan
- 1997-1998**      Dean  
Faculty of Science, University of Jordan  
Amman - Jordan
- 1996-1997**      Professor of Physics  
Department of Physics, University of Jordan  
Amman - Jordan
- 1995-1996**      Library Director  
Visiting Professor  
Department of Physics, AL al-Bayt University  
Mafraq - Jordan
- 1993-1995**      Chairman  
Department of Physics, University of Jordan  
Amman - Jordan
- 1992-1993**      Chairman  
Visiting Professor  
Department of Physics & Mathematical Sciences  
Applied Science University  
Amman - Jordan
- 1989-1992**      Professor of Physics  
Department of Physics, University of Jordan  
Amman, Jordan

- 1988-1989** Visiting Professor  
Department of Physics, University of Bahrain  
Bahrain
- 1984-1988** Associate Professor of Physics  
Department of Physics, University of Jordan  
Amman - Jordan
- 1978-1984** Assistant Professor of Physics  
Department of Physics, University of Jordan  
Amman - Jordan
- 1972-1973** Full - time Lecturer of Physics  
Department of Physics, University of Jordan  
Amman - Jordan

### **Fields of Study**

*Ph.D. Thesis title:* “ Hyperfine Magnetic Interaction at Dilute Impurities in Huesler Alloys ”

*M.Sc. Thesis title:* “Millimeter Magnetic Resonance Study of Some Antiferromagnetic Insulators”

### **Areas of Research Interest**

#### ***A. Nuclear Spectroscopy***

- (a) Radioisotope Gamma-Spectroscopy
- (b) X-Ray Spectroscopy with two excitation modes:
  - (i) Radioisotope X-Ray Fluorescence (XRF)
  - (ii) Tube Excited X-Ray Fluorescence (TEFA)

#### ***B. Accelerator-Based Solid Particle Interactions***

- (a) (p,  $\gamma$ ) reactions
- (b) Particle-Induced X-Ray Emission (PIXE)
- (c) Ion-Mixing (IM) studies Using Rutherford Back Scattering Spectrometry (RBS) and Electrical Resistivity Measurements

***C. Applications of Nuclear Techniques to:***  
Industrial, Agricultural, Environmental and  
Medical problems

**Committee Membership**

- Member of the Financial Committee of the Deans Council 1997-1998, University of Jordan, Amman, Jordan
- Member of the Student Affairs Committee of the Deans Council 1997-1998, University of Jordan, Amman, Jordan
- Member of the University Curriculum Committee of the Deans Council 1997-1998, University of Jordan, Amman, Jordan
- Member of the University Conference Committee of the Deans Council 1997-1998, University of Jordan, Amman, Jordan
- Member of the Board of the Joint Committee of Marine Science Station (At Aqaba) 1997-1998, Jordan and Yarmouk Universities
- Member of the National Steering Committee (NSC) for Higher Education Development Project (HEDP, World Bank) 1998-2001
- Chairman, The University Curriculum Committee 1998-2001, Al al-Bayt University , Mafraq, Jordan
- Chairman, The University Employees Committee 1998-2001, Al al-Bayt University , Mafraq, Jordan
- Member of The University Student Admission and Registration Committee 1998-2001, Al al-Bayt University, Mafraq, Jordan
- Chairman, The University Committee to establish the Nursing School 2000-2001, Al al-Bayt University, Mafraq, Jordan
- Chairman, The University Committee to establish the Information Technology School 2000-2001, Al al-Bayt University, Mafraq, Jordan
- Member of the Board of Trustees of Amman Private University, 1999- 2000

## **Technical Activities**

### ***A. New Laboratory Development***

- Nuclear and Radiation Laboratory supported by IAEA, Department of Physics, University of Jordan, Amman, Jordan, 1978
- Nuclear Analytical Techniques at Jordan Van de Graaf Accelerator supported by GTZ, Department of Physics, University of Jordan, Amman, Jordan, 1981
- Nuclear and Radiation Laboratory, Department of Physics, Al al-Bayt University, Mafraq, Jordan, 1995

### ***B. Curriculum Development***

- Development of Ph.D. Program in Physics, University of Jordan, Amman, Jordan
- Development of M. Sc. Program in Physics, University of Jordan, Amman, Jordan
- Development of M. Sc. Program in Physics, Al al-Bayt University, Mafraq, Jordan
- Development of Diploma Program in Medical Physics, University of Jordan, Amman, Jordan
- Development of Undergraduate Program Curriculum in Physics, University of Jordan, Amman, Jordan
- Development of Undergraduate Program Curriculum in Physics, Al al-Bayt University, Mafraq, Jordan
- Development of Undergraduate Program Curriculum in Physics, Applied Science University, Amman, Jordan
- Development of Undergraduate Program Curriculum in Medical Physics, Applied Science University, Amman, Jordan
- Development of Laboratories of: Electronics, Nuclear and Radiation Physics, University of Jordan, Amman, Jordan
- Development of Physics Freshman Laboratories for Students of: Science, Engineering, Medical Sciences, & Agricultural Sciences, Department of Physics, University of Jordan, Amman, Jordan

### ***C. Courses Taught***

#### **First Year Level Courses**

- Introductory Physics for Scientists & Engineers-1
- Introductory Physics for Scientists & Engineers-2
- Introductory Physics for Medical Sciences Students
- Introductory Physics for Agricultural Sciences Students
- Introductory Physics Lab for Scientists & Engineers-1
- Introductory Physics Lab for Scientists & Engineers-2
- Introductory Physics Lab for Agricultural Sciences Students
- Introductory Physics Lab for Medical Sciences Students
- Calculus & Analytical Geometry-1
- Calculus & Analytical Geometry-2

#### **Second Year Level Courses**

- Optics Lab
- Physical Optics
- Waves & Vibrations
- Electronics
- Electronics Lab
- Analytical Classical Mechanics
- Intermediate Electricity & Magnetism
- Mathematical Physics –1

#### **Third Year Level Courses**

- Advanced Physics Lab-1
- Statistical and Thermal Physics
- Classical Mechanics
- Electromagnetic Theory–1
- Quantum Mechanics
- Mathematical Physics –2

#### **Fourth Year Level Courses**

- Advanced Physics Lab-2
- Electromagnetic Theory–2
- Nuclear Physics

### **Graduate Level Courses**

- Advanced Classical Mechanics
- Advanced Mathematical Physics
- Advanced Electrodynamics
- Advanced Quantum Mechanics
- Advanced Statistical Mechanics
- Advanced Nuclear Physics

### **Computer Skills Courses**

- Computer Basics
- Databases
- Email
- Presentation
- Spreadsheets
- Word Processing

### ***D. Workshop and Conference Participation***

- Second International Conference on Particle-Induced X-Ray Emission and its Analytical Applications, Lund, Sweden, 1980
- First Petra School of Physics, Physics Department, University of Jordan, Amman, Jordan, 1981
- Third International Conference on Particle-Induced X-Ray Emission and its Analytical Applications, Heidelberg, Germany, 1983
- The First Workshop on Van de Graaff Accelerators in Research, Training , and Technological Applications, Physics Department, University of Jordan, Amman, Jordan, 1985
- The First Conference on Physics of Condensed Matter, Physics Department, University of Jordan, Amman, Jordan, 1986
- The Second Conference on Physics of Condensed Matter, Physics Department, University of Jordan, Amman, Jordan, 1988
- The Second Workshop on Van de Graaff Accelerators in Research, Training , and Technological Applications, Physics Department, University of Jordan, Amman, Jordan, 1987
- The Third Workshop on Van de Graaff Accelerators in Research, Training , and Technological Applications, Physics Department, University of Jordan, Amman, Jordan, 1995
- Workshop on Information Technology (IT) in Higher Education, Organized by the Association of Arab Universities and The University of Jordan, 1999
- Fifth Petra School of Physics, Physics Department, University of Jordan, Amman, Jordan, 2000

- The Third Conference on Physics of Condensed Matter, Physics Department, University of Jordan, Amman, Jordan, 2001

## **Participation in M. Sc. Thesis Committees**

### ***A. Thesis Supervision***

1. Development of x-ray fluorescence spectroscopy for elemental analysis of particulate matter in atmosphere: August 1982
2. Computer-based data analysis by x-ray fluorescence: August 1982
3. X-ray fluorescence data processing in the energy range 1.5 and 15.4 keV: January 1983
4. Measurement of K and L X-ray fluorescence cross-sections: February 1983
5. Geometry optimization of planar Ge detector and some improvements of fundamental parameters: September 1983
6. Automation of particle Induced X-Ray Emission (PIXE) system using thin standards: August 1984
7. Estimation of neutron distribution and safety level from JOVAC: August 1984
8. Measurement of X-ray cross-sections photon X-ray spectrometry: July 1986
9. Measurement of X-ray fluorescence yield using combined PIXE and RBS techniques: August 1988
10. Ion beam mixing of thin film layers: July 1988
11. Electrical properties of ion beam irradiated thin film layers: August 1989
12. Measurement of absorption coefficients at selected energies: July 1992
13. Ion beam mixing of Au/Glass using an accelerated beam of Argon: August 1992
14. Kinetics of ion beam mixing of copper on glass systems: August 1992
15. Ion beam mixing studies of Sn/glass systems using an accelerated Argon beam: December 1992
16. Atomic Mixing of Sb/glass system by Ion Beams: December 1992
17. Measurement of X-ray fluorescence cross section for some elements: January 1993
18. Atomic mixing of Tin/Glass system by ion beams: August 1993
19. Measurement of X-ray fluorescence cross sections for some elements in the range XXXXXXXXXX: August 1995



20. Ion beam mixing studies of metal/Silicon and Silicon oxide systems: September 1995
21. Ion beam mixing effects in the Ar Irradiated bi-layer thin films systems: May 1996
22. Study of ion beam mixing of the bi-layer systems of Te/In, Se/In and S/In (**Ph.D.**): September 1996
23. Ion beam mixing of silver/glass system: December 1996
24. Ion beam mixing studies of some Silicide systems: April 1997
25. Ion beam mixing studies of Germanide systems: May 1997
26. X-ray absorption measurements in some materials: July 1998
27. Measurement of X-ray Absorption coefficients in some elements at selected energies: August 1999
28. Photon incoherent scattering for the characterization of biological materials: May 2000
29. Application of incoherent scattering technique for monitoring the variation in the body fluid concentrations: May 2000

***B. Member of Examining Committee***

1. Influence of ion irradiation of magnetic order in some palladium alloys: September 1983
2. Investigation of the  $^{27}\text{Al}(p,\gamma)^{28}\text{Si}$  reaction in the proton energy range  $E=0.5-2.5$  MeV : May 1987
3. Rutherford Backscattering studies of impurities doped glasses: May 1988
4. Photo-voltaic cells simulation: May 1990
5. Resonance Gamma-ray absorption in  $^{208}\text{Pb}$  using the nuclear reaction  $^{13}\text{C}(p,\gamma)^{14}\text{N}$ : January 1991
6. Determination of the Backscattering cross section of  $^{16}\text{O}(\alpha,\alpha)^{16}\text{O}$  in the energy region (0.3-3) MeV: December 1993
7. Physical factors affecting quantitative Measurements using single photon emission computed Tomography: July 1997
8. Comprehensive exams for Ph.D. graduate students.

***B. Present Supervision***

At present I am supervising graduate students working toward their theses. The main problems are: First, investigate the feasibility of using incoherently scattered radiation to characterize solid biological tissues. Second, using Compton scattering technique to measure the physical density concentration within the body fluids. Third, to study the kinetics of ion beam mixing of Ag/glass, Sb/glass and Te/glass when irradiated by energetic Ar and Kr ions.

## Publications

### A. Books

Co-Author of two textbooks in Physics (in Arabic) :

١. محمود، يوسف و صالح ، نصر و وشاح ، خليل: اساسيات الفيزياء الجامعية "الميكانيكا والحرارة" ، دار المناهج للنشر والتوزيع، الاردن ١٩٩٥.
٢. صالح ، نصر و الصالح ، كمال: الموجات والاهتزازات، جامعة القدس المفتوحة، الاردن ١٩٩٨.

### B. Articles

1. "Antiferromagnetism in  $Mn_3TeO_6$ ", P. Elliston, F. Habbal, G.E. Watson and **N. Saleh**, J. Phys. C: Solid State Phys., 7 (1974) L220.
2. "Magnetic and optical study of  $NaCrO_2$ ", P.R. Elliston, F. Habbal, **N. Saleh** and G.E. Watson, J. Phys. Chem. Solids, 36 (1975) 877.
3. "Hyperfine magnetic field measurement in Heusler alloys with rhodium<sup>111</sup> and indium<sup>99</sup> by TDPAC technique", S. Jha, **Naser Saleh**, Glenn M. Julian, T.E. Ward, James W. Blue and David C. Liu, J. Appl. Phys., 50 (1979) 2069.
4. "PIXE analysis of ancient Jordanian pottery", **Naser Saleh**, Lars-Eric Carlsson, Awni B. Hallak and Crystal Bennet, Nucl. Instr. Meth., 181 (1981) 527.
5. "Calibration of the Si (Li) detector by radioisotope x-ray fluorescence", **Naser Saleh** and Awni Hallak, The Arabian J. of Science and Engineering, 7 (1982) 225.
6. "Radioisotope x-ray fluorescence technique in the investigation of some environmental samples", Awni B. Hallak and **Naser S. Saleh**, DIRASAT, Natural Sciences, 9 (1982) 39.
7. "Bromine residues in the soil and fruits of certain crops after soil fumigation with methyl bromide", I.K. Nazer, A.B. Hallak, W.I. Gharbieh and **N.S. Saleh**, J. Radioanal. Chem., 74 (1982) 113.
8. "Proton-induced x-ray emission analysis of Tea leaves", **N.S. Saleh**, J. Radioanal. Chem., 74 (1982) 191.

9. "Use of PIXE analysis to determine trace metals in drinking water in Jordan", **N.S. Saleh**, J. Radioanal. Chem., 74 (1982) 257.
10. "PIXE analysis in viticulture and oenology", **Naser S. Saleh**, DIRASAT, Natural Sciences, 9 (1982) 41.
11. "A new method for matrix corrections by radioisotope excited x-ray fluorescence", A.B. Hallak and **N.S. Saleh**, X-ray Spectrom., 12 (1983) 148.
12. "Surface density measurement of pure element thin films by radioisotope x-ray fluorescence spectrometry", **N.S. Saleh** and A.B. Hallak, X-ray Spectrom., 12 (1983) 170.
13. "Millimeter wavelength magnetic resonance study of  $\text{Cr}_2\text{TeO}_6$  and  $\text{Cr}_2\text{WO}_6$  antiferromagnetic insulators", **Naser S. Saleh**, J. Phys. C: Solid State Phys., 17 (1984) 3084.
14. "EPR study of antiferromagnetic ordering in  $\text{MnSeO}_4$ ", **Naser S. Saleh**, J. Phys. C: Solid State Phys., 17 (1984) 3489.
15. "Diagnosis of some environmental pollution problems by x-ray fluorescence analysis", A.B. Hallak, **N.S. Saleh** and A.M. Othman, Appl. Phys. Commun., 4 (1984) 179.
16. "Magnetic hyperfine field at Tin site in ferromagnetic  $\text{Co}_2\text{MnSn}$ ", **N.S. Saleh**, S. Jha and G.M. Julian, Appl. Phys. Commun., 5 (1985) 37.
17. "The use of Palm leaves as a bioindicator of atmospheric pollution", **N.S. Saleh**, A.B. Hallak and A.M. Othman, Int. J. Appl. Radiat. Isot., 36 (1985) 321.
18. "Geometry considerations in radioisotope x-ray fluorescence spectrometry", A.B. Hallak and **N.S. Saleh**, J. Phys. E: Sci. Instrum., 18 (1985) 9.
19. "Hyperfine magnetic field in  $\text{Au}_2\text{MnIn}$ ", **N.S. Saleh**, S. Jha and G.M. Julian, Appl. Phys. Commun., 5 (1985) 189.
20. "Measurement of K and L x-ray fluorescence yield", A.B. Hallak, **N.S. Saleh** and K.M. Shabaro, Appl. Phys. Commun., 5 (1985-86) 241.

21. "PIXE facility at Jordan Van-De Graaff accelerator", **Naser Saleh**, Awni Hallak, Kamal Al-Saleh and Dia-Edin Arafah, Appl. Phys. Commun., 5 (1985-86) 253.
22. "Nuclear analysis of Jordanian tobacco", K.A. Al-Saleh and **N.S. Saleh**, Nucl. Instrum. Meth., B18 (1986) 77.
23. "Measurement of K and L fluorescence cross-sections", **N.S. Saleh**, A.B. Hallak and M.M. Amer, Appl. Phys. Commun., 6 (1986) 153.
24. "Estimation of neutron skyshine and safety level from Jordan Van De Graaff accelerator", **N.S. Saleh**, A. Hallak and M. Abu Ja'afar, Appl. Commun., 6 (1986) 165.
25. "X-ray fluorescence data processing in the energy range 1.5 to 15.4 keV", M.E. Sharif, **N.S. Saleh** and A.B. Hallak, Appl. Phys. Commun., 6 (1986) 177.
26. "Combined XRF and PIXE analysis of flour", **Naser S. Saleh** and K.A. Al-Saleh, Appl. Phys. Commun. 6 (1986) 195.
27. "XRF induced by PIXE: comparison with PIXE", **N.S. Saleh**, K.A. Al-Saleh, J. Radioanal. Nucl. Chem., 108 (1986) 363.
28. "XRF induced by PIXE: comparison with radioisotope XRF", K.A. Al-Saleh, J.D. Meyer and **N.S. Saleh**, Appl. Phys., A42 (1987) 327.
29. "INK: a computer program for accurate analysis of particle-induced x-ray emission spectra", I.J. Jabr, **N.S. Saleh** and A.B. Hallak, Nucl. Instrum. Meth., B18 (1987) 194.
30. "Measurement of K cross sections and fluorescence yields for elements in the range  $42 \leq Z \leq 57$  using radioisotope x-ray fluorescence", I.A. Al-Nasr, I.J. Jabr, K.A. Al-Saleh and **N.S. Saleh**, Appl. Phys., A43 (1987) 71.
31. "Combined nuclear measurements of yeast", **N.S. Saleh**, K.A. Al-Saleh, D.-E. Arafah and N.A. Halim, Nucl. Instrum. Meth., B23 (1987) 379.
32. "Measurement of K-Shell x-ray cross sections of selected elements from Ti to Zn for incident protons", **N.S. Saleh** and K.A. Al-Saleh, Phys. Stat. Soli., (a) 102 (1987) 619.

33. "A new approach on absorption effects using radioisotope x-ray spectrometry", **N.S. Saleh**, K.A. Al-Saleh and A.J. Abu El-Haija, *J. Radioanal. Nucl. Chem. Lett.*, 118 (1987) 177.
34. "Measurement of x-ray attenuation coefficients for elements in the range  $97 < Z < 92$ ", **N.S. Saleh**, M.A. Sharif and K.A. Al-Saleh, *Appl. Phys. Commun.*, 7 (1987) 69.
35. "Quantitative analysis of stainless steel using nuclear techniques", A.J. Abu El-Haija, K.A. Al-Saleh, N.A. Halim, M.R. Kamal, J.M. Khalifeh and **N.S. Saleh**, *Mater. Sci. Eng.*, 95 (1987) 267.
36. "Assessment of Jordanian salt using nuclear techniques", K.A. Al-Saleh, D.-E. Arafah, I.J. Jabr and **N.S. Saleh**, *Appl. Phys. Commun.*, 7 (1987) 195.
37. "Measurement of photon-induced  $K_{\alpha}$  and  $K_{\beta}$  x-ray cross-sections for some elements with  $73 \leq Z \leq 82$ ", **N.S. Saleh** and K.A. Al-Saleh, *Int. J. Appl. Radiat. Isot.*, A38 (1987) 975.
38. "Study of ion beam induced mixing in Sb/Si system using electrical resistivity", A.J. Abu El-Haija, K.A. Al-Saleh, N.A. Halim, J.M. Khalifeh and **N.S. Saleh**, *Appl. Phys. Commun.*, 7 (1987) 301.
39. "Quantitative analysis of Jordanian phosphate using nuclear techniques", **N.S. Saleh** and K.A. Al-Saleh, *Appl. Phys. Commun.*, 7 (1987) 313.
40. "Ion-beam mixing of Te/Au (Metastable phase transformations)", I.J. Jabr, K.A. Al-Saleh, J.D. Meyer and **N.S. Saleh**, *Phys. Stat. Soli.*, (a)104 (1987) 972.
41. "Enhancement effects in XRF analysis", **N.S. Saleh**, K.A. Al-Saleh and A.J. Abu El-Haija, *J. Radioanal. Nucl. Chem.*, 120 (1988) 161.
42. "Study of ion beam induced mixing in Sn/Si system using electrical resistivity", A.J. Abu El-Haija, K.A. Al-Saleh, N.A. Halim, J.M. Khalifeh and **N.S. Saleh**, *J. Radioanal. Nucl. Chem.*, 120 (1988) 387.
43. "Ion-beam induced mixing of Cu/Au bilayer thin film", I.J. Jabr, K.A. Al-Saleh and **N.S. Saleh**, *Appl. Phys.*, A46 (1988) 13.

44. "Photon and proton induced x-ray cross sections for some elements", **N.S. Saleh**, J. Radioanal. Nucl. Chem., 122 (1988) 193.
45. "Ion beam induced mixing of Cu/Si system using electrical resistivity and RBS measurements", A.J. Abu El-Haija, K.A. Al-Saleh, N.A. Halim, J.M. Khalifeh and **N.S. Saleh**, Phys. Stat. Soi., (a)107 (1988) 253.
46. "Measurement of photon-induced K x-ray cross-sections for elements with  $73 \leq Z \leq 82$ ", **N.S. Saleh** and A.J. Abu El-Haija, J. Phys. B: At., Mol. & Opt. Phys., 21 (1988) 3077.
47. "a.c. conductivity of Jordanian rock wool", A.J. Abu El-Haija, K.A. Al-Saleh, N.A. Halim, J.M. Khalifeh and **N.S. Saleh**, DIRASAT, Nat. Sci., XV(9) (1988) 126.
48. "Photon induced L-shell x-ray intensity ratio for elements with  $73 \leq Z \leq 83$  in the range  $17 \leq E \leq 47$  KeV", **N.S. Saleh**, K.A. Al-Saleh, A.J. Abu El-Haija, J.M. Khalifeh and N.A. Halim, Int. J. Appl. Radiat. & Isot., 39(12) (1988) 1213.
49. "Photon induced L-shell x-ray intensity ratio for elements with  $73 \leq Z \leq 92$ ", **N.S. Saleh**, M.A. Al-Sharif, K.A. Al-Saleh and I.J. Jabr, J. Radioanal. Nucl. Chem., 131(2) (1989) 35.
50. "Comparison of ion beam induced atomic mixing kinetics of Ti/Si, Fe/Si and Ni/Si systems", K. A. Al-Saleh, I.J. Jabr and **N.S. Saleh**, Phys. Stat. Sol., (a)118 (1990) 467.
51. "Kinetics of ion-beam mixing at Ti-Si interfaces", I.J. Jabr, **N.S. Saleh** and K. A. Al-Saleh, J. Mat. Sci. Elect., 1 (1990) 100.
52. "Kinetics of ion beam mixing in the Au/Si system", **N.S. Saleh**, K. A. Al-Saleh and A.M. Al-Saie, Phys. Stat. Soli., (a)120 (1990) 169.
53. "Ion beam mixing of noble metals/ Ge Bilayer thin films", **N.S. Saleh**, K. A. Al-Saleh and A.A. Saleh, Nucl. Instrum. Meth., B47 (1990) 263.
54. "Ion beam induced atomic mixing kinetics of Te/Cu and Te/Ag", **N.S. Saleh**, I.J. Jabr and K.A. Al-Saleh, Nucl. Instrum. Meth., B71 (1992) 264.

55. "Ion induced atomic transport in Pd/Ge system", K. A. Al-Saleh and **N.S. Saleh**. Nucl. Instrum Meth., B119 (1996) 395.
56. "Kinetics of ion beam mixing of the Te/Se system", **N.S. Saleh** and K. A. Al-Saleh. Phys. Stat. Soli., (a)157 (1996) 399.
57. "Ion beam mixing of Au/In bilayer thin film: growth of intermixed layer", K. A. Al-Saleh and **N.S. Saleh**, Phys. Stat. Soli., (a)161 (1997) 407.
58. "L x-ray fluorescence cross sections of heavy elements excited by 16.04, 16.90, and 17.78 keV photons", K. A. Al-Saleh and **N.S. Saleh**, Rad. Phys. Chem., 54 (1999) 117.
59. "A new method for matrix corrections applied to energy dispersive x-ray fluorescence analysis", **N.S. Saleh**, J. Sharaf, and K.A. Al-Saleh, sent for publication.
60. "Measurement of photon-induced x-ray fluorescence cross sections for Ho and Yb in the 11.37-25.80 keV energy range", **N.S. Saleh**, sent for publication.