Curriculum Vitae

DIA-EDDIN M. ARAFAH
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Date of birth: 14/10/1953
Place of birth: Jerusalem
Nationality: Jordanian
Marital status: Married; four children.

I. Higher Education:

- B.Sc., Physics, University of Jordan, 1976.
- M.Sc., Nuclear Physics, University of Jordan, 1978.
- D.Phil., Condensed Matter Physics, University of Sussex, England, 1984.

II. Experience (place, job and dates):

- Royal Jordanian Airlines, ALIA, Non-destructive testing NDT, of materials; Amman Airport, 1976-1978.
- Lufthansa, German Airlines, Federal Republic of Germany, Training for Non-Destructive-Testing (NDT) of materials, 1978.
- University of Jordan, Physics Department, Amman, Jordan; Lecturer; 1978-1980.
- University of Sussex, School of Mathematical and Physical Sciences, England, Lab. Instructor, 1983-1984.
- University of Jordan, Physics Department, Amman, Jordan, Assistant Professor, 1985-1990.
- University of Jordan, Physics Department, Amman, Jordan, Associate Professor, 1990-1998.
- University of Jordan, Physics Department, Amman, Jordan, Professor, 1998.
- Chairman Physics Department, Al-Hashemite University, 98/1999.
- Chairman Physics Department, University of Jordan, 02/2003 and 03/2004
- Vice Dean Faculty of Science, University of Jordan, Sept. 2004/ Jan. 2005.
- Dean Faculty of Science, University of Jordan, Jan. 2005/August 2005.
- Member of committee of Ministry of Higher Education for Accreditation programs in Physics at Universities 2005.
- Dean of Academic Research, University of Jordan, August 2005/August 2007.
- Organizing Committee: TMS-2007; "Metrologies for Advanced Materials and Devices: Characterization, Measurement and Testing Science: Metrology for Micro and Nano Structures" / "Recent Developments in Semiconductor, Electro Optic and Radio Frequency Materials: Progress in Semiconductor Optoelectronics and Beyond", Orlando, Florida, February 25-March 2, 2007.
- Vice President for Development, Planning and Quality Assurance, The University of Jordan, August 2007-2008.
- Vice President for Scientific Faculties and Institutes, The University of Jordan, August 2008-Agust 2010.

III. Fields of Study and Thesis Work Titles:

1) M.Sc.: Nuclear Physics, thesis title:
"Even Parity States of ^{16}O"
Publication:

- "Even parity states of ^{16}O", Kassis N. and Arafah D.-E., J. Phys. G: Nuclear Physics 7 (1981) 165.

2) D.Phil.: Condensed Matter Physics, thesis title:
"Defects studies in insulators using ion beam techniques"
Publications:

- "RBS studies of implanted heavy ions in CaF_2 and LiF single crystals", Bangert U., Thiel K., Kerr W. and Arafah D.-E., GSI Annual Report, 1981, 196.

- "Ion range studies of cerium implanted CaF_2", Arafah D.-E., Bangert U., Thiel K. and Townsend P.D., Nucl. Instr. and Methods, **209/210** (1983) 1105.
- "Radiation enhanced diffusion of Krypton and Uranium impurities in LiF", Bangert U, Arafah D.-E., Sassmannhausen U., Thiel K. and Townsend P.D., Nucl. Inst. and Methods, **209/210** (1983) 1111.
- "Preferential sputtering and ion induced changes in the composition of pure and U-doped LiF single crystals", Thiel K. Sassmannhausen U., Arafah D.-E. and Recker K., Nucl. Inst. and Methods **B1** (1984) 282.
- "Changes in RBS spectra resulting from surface charge effects", Arafah D.-E. and Townsend P.D., Nucl. Inst. and Methods **B4** (1984) 399.
- "Lattice location of Ce implanted in CaF_2", Arafah D.-E., Georgiacodis D.N., Townsend P.D., Hogg C.W. and Chadwick A.V., Proc. Int. Symp. On Three Day in Depth Review of Particle Accelerator Impact in the Interdisciplinary Field, LNL-Padova, Italy, (1985) 38.

IV. Scientific Grants and Visits

- British Council Scholar, 1980-1981.
- University of Jordan Scholar, 1981-1984.
- Short-term visit to the Institute of Nuclear Chemistry (IKC), Coln University, supported by the University of Sussex, May 1982.
- Scientific visit to IBM Research Laboratories, York Town Heights, New York, and New York University at Sunny Albany, USA, May/June 1982.
- Research grant on the use of nuclear techniques in research and applications including Nuclear reaction analysis, activation analysis; Nuclear Physics Institute, Goethe University, Frankfurt, FRG, 1/6-1/9/1987; supported by DAAD.
- "Orientation dependence of stopping powers studied in GaAs by nuclear reactions", Arafah D.-E., Qumri N. Meyer J.D., Thomas T. and Bethge K., IKF Annual Report, 1987.
- Research grant from the Deanship of Research, University of Jordan, contract number 2/3/87.
- Scholar from Goethe University, Frankfurt, FRG, Joint Research; 1/6-20/7/1988.
- Research grant to the University of Padova, supported by the International Center for Theoretical Physics, ICTP, Trieste, Italy, 1/6-20/9/1989.
- Research grant from Stiftung Volkwagenwerk in collaboration with the Institut fur Kernphysik der Univarsitat Frankfurt, "Modification of the properties of materials during ion implantation and their analysis", 1989-1991.
- Research grant on the use of nuclear techniques in research and applications; Nuclear Physics Institute, Goethe University, Frankfurt, FRG, 15/6-15/8/1995; supported by DAAD.
- Research grant from GTZ and DAAD in collaboration with the Institut fur Kernphysik der Univarsitat Frankfurt, "Materials analysis using ion beams", 1997-1999.

V. Supervision:

Master Science of and Doctor of Philosophy theses works:

1. "Rutherford backscattering studies of impurities doped glass", Sbouh A.K., University of Jordan, Physics Department, May 15, 1988.
2. "Stopping power measurements using the Rutherford backscattering spectrometry technique", Al-Amleh R.I, University of Jordan, Physics Department, March 30, 1989.
3. "Rutherford backscattering simulation", Wong S.P., University of Jordan, Physics Department, May 27, 1990.
4. "Diffusion in glass", Mubarak A.S., University of Jordan, Physics Department, August 20, 1990.
5. "Ion mixing of Au/Sb thin films", Sharaf A.A., University of Jordan, Physics Department, September 27, 1990.
6. "Construction and testing of a Parallel plate avalanche detector, (PPAD)", Al-Khayyat K.S., University of Jordan, Physics Department, February 4, 1991.
7. "Analysis of pure and Eu-doped single crystalline CaF_2 by nuclear reactions", Gaith B.R, University of Jordan, Physics Department, February, 29 1992.
8. "Concentration and time dependencies of the diffusion processes in glass", Al-Qabaha M., University of Jordan, Physics Department, June 23, 1992.
9. "Ion beam mixing: theory and experiment", Hamdan L.K., University of Jordan, Physics Department, August 9, 1992.

10. "Thermoluminescence studies of irradiated doped insulators", Al-Turany M.H., University of Jordan, Physics Department, October 9, 1994.
11. "Characterization of TL emission spectra resulting from sensitized TLD-100", Mahmoud A.G., University of Jordan, Physics Department, November 14, 1995.
12. "Electric field enhanced diffusion in glass", Al-Mughrabi Mufied, University of Jordan, Physics Department, March 22, 1995.
13. "Ion mixing of Ag/Cd thin films", Masoud Nazeih., University of Jordan, Physics Department, April 20, 1997.
14. "Trapping parameters determination of Dy doped $CaSO_4$ phosphor crystals", Tu'meh Lubna Najib, University of Jordan, Physics Department, April 13, 1997.
15. "Trapping parameters determination using the inflection points method and distribution of frequency factor", Al-Qassem Bilal, University of Jordan, Physics Department, June 18, 1997.
16. "A study of the Environmental radioactivity in water", Shreiteh Fuad, University of Jordan, Physics Department, March 1998.
17. "Normal and enhanced ion-exchange processes of Ag and TL ions in glass", Sharif Hussein, University of Jordan, Physics Department, October 1998.
18. "Ion-exchange studies of Bi^{+3} and La^{+3} in glass with dimethyl-formamide (DMF) as a solvent", Tumalieh Maha, University of Jordan, Physics Department, October 1998.
19. "Thermoluminescence of LiF based dosimeters and their applications in radiation diagnosis", Al-Ramahi Shada, University of Jordan, Physics Department, July 1998.
20. "Characterization of ion implanted quartz by Rutherford backscattering and Thermoluminescence", Abu-Sleimeh Khadijeh, University of Jordan, Physics Department, June 2000.
21. "Characteristics of Irradiated Germanium Thin Films Deposited onto Silicon Substrates by Rutherford Backscattering and Thermoluminescence", Abdel-Aziz Thanaa, University of Jordan, Physics Department, January 2002.
22. "Thermoluminescence Characteristics of Mixed Alkali Sulphates Doped with Rare Earth Elements", Al-Uleimi Mahmoud, University of Jordan, Physics Department, June 2003.
23. "Characterization of ion implanted quartz by Rutherford backscattering and Thermoluminescence", Salem Shadi, University of Jordan, Physics Department, June 2003.
24. "Characteristics of Irradiated Germanium Thin Films Deposited onto Silicon Substrates by Rutherford Backscattering and Thermoluminescence", Al-Unaizi Radhi, University of Jordan, Physics Department, June 2003.
25. "Thermoluminescence Characteristics of Post-Irradiation of Ag-Thin Films Deposited onto Glass", Hala Jaber, University of Jordan, Physics Department, August 2003.
26. "Environmental Studies in the attenuation of Radiation and transfer effects of radionuclides", Mohammad Awadallah, Ph.D. Thesis, University of Jordan, Physics Department, August 3003.
27. "Sensitization of the Thermoluminescence Response of KBr Phosphor ", Samer Dabeet, M.Sc. Thesis, University of Jordan, Physics Department, February 2004.
28. "Studies of the Characteristics of Doped and Ion Irradiated KBr Phosphors by Rutherford Backscattering", Laith Al-Dalabeeh, M.Sc. Thesis, University of Jordan, Physics Department, February 2004.
29. "Studies of Fluoride Deposition in the Dental Enamel Following the use of Fluoride–containing Gel by $(p,\alpha\gamma)$ Nuclear Reaction", Anna-Hita, M.Sc. Thesis, University of Jordan, Physics Department, February 2004.
30. "Characterization of Si-Fe Systems by Rutherford backscattering spectrometry", Tahani Bouzieh, M.Sc. Thesis, University of Jordan, Physics Department, February 2004.
31. "Thermoluminescence characteristics of mixed alkali sulphates doped with Rare Earth elements" Lauy Barham, M.Sc. Thesis, University of Jordan, Physics Department, January 2005.
32. "Charge states of post accelerated thin solid films resulting from ion-atom exchange phenomena", Abdullah Mahasneh, Ph.D. Thesis, University of Jordan, Physics Department, September, 2005.
33. "Characterization of thin Co/Fe films deposited onto Silicon", Zainab Al-Asfar, M.Sc. Student, University of Jordan, Physics Department, Joined November, 2005.
34. "Characterization of thin films deposited onto quartz by Rutherford backscattering and Thermoluminescence", Noura Al-Dahabi, Ph.D. Student, University of Jordan, Physics Department, Joined December, 2005.
35. "Emission spectra and thermoluminescence glow curves of doped mixed alkali ", Mohammad Al-Olaimi, M.Sc. Student, University of Jordan, Physics Department, Joined May, 2004.

36. "Correlation of Backscattered and Recoil Ions in Violent Ion-Atom Collisions by Coincident Rutherford Backscattering Spectrometry", Hanan Saadeh, Ph.D. Student, University of Jordan, Physics Department, Joined March, 2006.
37. "Emission spectra and thermoluminescence glow curves of doped mixed alkali sulphates", Ola Sawaftah, M.Sc. Student, University of Jordan, Physics Department, Joined May, 2006.
38. "Improvement of the Thermoluminescence Properties of Co-Dopped Alkali sulphates, Mohammad Al-Olaimi, Ph.D. Student, University of Jordan, Physics Department, Joined May, 2005.

VI. Conference Participation:

- 9th. Int. Conf. on Atomic Collisions in Solids, "ACIS", Lyon, France, July, 1981.
- Analysis by High Energy Ion Beams: Developments and New Applications, Brighton, England, June 1983.
  - Research title: "Changes in RBS spectra from surface charge effects".
- 11th. Int. Conf. on Atomic Collisions in Solids, "ACIS", Grenoble, France, July 1983.
- Int. Symp. on Three Day in Depth Review on Nuclear Accelerators Impact in the Interdisciplinary Field, LNL-Padova, Italy, May 1984.
  - Research title: "Lattice location of Ce implanted in CaF_2".
- Summer Workshop in Condensed Matter Physics, ICTP, Trieste, Italy, August 1985.
- 1st. Workshop on Van de Graaff Accelerators in Research, Training and Technological Applications, "ARTTA'85', September 1985, University of Jordan, Physics Department, Amman, Jordan.
  - Research title: "Effects of biasing on RBS measurements".
- 1st Conf. on Condensed Matter Physics "PCM'86", July 1986, University of Jordan, Physics Department, Amman, Jordan.
- I.C. Summer School on Ion Beam Analysis of Solids, "CIBAS", Jena University, DDR, 1-13 Sept. 1986.
  - Research title: "Charge states separation and measurements ".
- 1st. Conf. of the Jordanian Chemical Society, Phosphate Mining Comp., Amman, Jan. 1986.
  - Research title: "Materials analysis using high energy ion beams".
- 2nd. Workshop on Van de Graaff Accelerators in Research, Training and Technological Applications, "ARTTA'87', Oct. 1987, University of Jordan, Physics Department, Amman, Jordan.
  - Research title: "Thickness determination by RBS technique".
- 2nd Conf. of the Jordanian Chemical Society, Phosphate Mining Comp., Amman, Jan. 1987.
  - Lecture title: "Glass and fiber optics".
- Summer Workshop in Condensed Matter Physics, ICTP, Trieste, Italy, August 1988.
  - Research title: "Changes in the composition of soda-lime glass resulting from doping".
- 2nd. Conf. on Condensed Matter Physics "PCM'86", April 1989, University of Jordan, Physics Department, Amman, Jordan.
  - Research title: "Radiation enhanced diffusion in glass".
- Int. Conf. on Condensed Matter Physics and Applications "ICCMPA", 13-16 April 1992, University of Bahrain, Department of Physics, Issa Town, Bahrain.
  - Research title: "Characterization of pure, ion-exchange and ion implanted glass".
- 3rd. Int. Conf. Solar Electricity (ICSE): Photovoltaics and solar thermal technologies, The Emirate of Sharjah, March 21-25, 1998.
  - Research title: "Substrate temperature effects on the processing of CdTe and CdS thin films".
- 2nd. Physics Palestinian Workshop on Condensed Matter and Applications, An-Najah National University, Nablus, Palestine May 3-4, 2000.
  - Research title: "Characterization of defects induced in thin films"
- Int. Symposium On Utilization of Accelerators, Sao Paulo, Brazil, November 26-30, 2001.
  - Research title: "Characterization of defects induced by Ar beam irradiation in thin films used for solar cell devices ".
- TMS-2006: Nanomaterials: Materials and Processing for Functional Applications of Nanoscale Materials; San Antonio, Texas, March 12-16, 2006.
  - Research title: "nanostructure materials fabricated by ion beam mixing".
- TMS-2007: Recent Developments in Semiconductor, Electro Optic and Radio Frequency Materials: Recent Advances in Semiconductor Technologies; TMS-2007, Orlando, Florida, February 25-March 2, 2007.

- Research title: "Silicon Germanium Nanostructures Doped with Rare Earth Materials".

VII. University, Faculty and Department Committees:

- Member of sub-committee of nuclear energy, University of Jordan and Ministry of Energy.
- Member of committee of waste disposals and pollution problems.
- Member of committee of the Department and Faculty for the nuclear Van de Graaff accelerator.
- Member of 2nd Workshop ARTTA'87 Organizing committee.
- Member of graduate studies committee at Department.
- Member of the Organizing committee of ICCMPA, 92, Bahrain
- Member of 3rd Workshop ARTTA'95 Organizing committee.
- Member of the New York Academy of Sciences.
- Member of the Non-destructive Testing (NDT) Society.
- Member of International Training Committee on Synchrotron Radiation (SESAME project).
- Founder of the Jordanian Physics Associations / 1975.
- Editor in Chief, **"Dirasat"**, Scientific Publication Journal, Published by the Deanship of Academic Research, Jordan University / Aug.2005-Aug.2007.
- Member of Committee of the Higher Education of Scientific Research, Ministry of Higher Education and Academic Research. Jordan / Aug.2005-Aug.2007.
- Chair of Committee "Incentive Prize" on behalf of the Ministry of Higher Education and Scientific Research, Jordan, 2005.
- Member of Committee "Abdul-Hamid Shouman for Arab Youth Scientists", 2005/2006.
- Chair of Committee "Abdul-Hamid Shouman for Science Schools Teachers" - Several times.
- Committee member of the **"Jordan Journal of Physics"**, Scientific Publication Journal, Published by the Deanship of Academic Research, Yarmuk University and the Ministry of Higher Education and Academic Research, 2007-Now, Jordan.

VIII. Other Activities:

- Establishing a new experimental condensed matter physics laboratory at the Physics Department University of Jordan.
- Best Research Award / The University of Jordan.
- Obtaining a financial support from:

1. Deanship of Research, University of Jordan, 1987.
2. Goethe University, Frankfurt, FRG, 1988
3. Volkswagen Stiftungwerk, Hannover, FRG, 1989-1992.
4. University of Padova, Italy, 1989.
5. Center of Theoretical and Experimental Physics, Irbid, 1991.
6. DAAD and GTZ, Hannover, Berlin, 1997-1999.
7. Deanship of Research, University of Jordan, 2001.
8. Higher Council for Science and Technology, Jordan, 2000.

IX. Education:

- Teaching most courses in physics for undergraduate and some postgraduate levels.
- Establishing Computer interactive courses in Physics.
- Organizing Training Session for the Excavation of Jordanian Archeology, held in cooperation between the University of Jordan and IAEA

X. List of Publications:

1. "Even parity states of ^{16}O", Kassis N. and Arafah D.-E., ***J. Phys. G: Nuclear Physics* 7** (1981) 165.
2. "RBS studies of implanted heavy ions in CaF_2 and LiF single crystals", Bangert U., Thiel K., Herr W. and Arafah D.-E., ***GSI Annual Report***, 1981, 196.
3. "Ion range studies of cerium implanted CaF_2", Arafah D.-E., Bngert U., Thiel K. and Townsend P.D., ***Nucl. Instr. and Methods***, **209/210** (1983) 1105.

4. "Radiation enhanced diffusion of Krypton and Uranium impurities in LiF ", Bangert U, Arafah D.-E., Sassmannhausen U., Thiel K. and Townsend P.D., ***Nucl. Inst. and Methods,* 209/210** (1983) 1111.
5. "Preferential sputtering and ion induced changes in the composition of pure and U-doped LiF single crystals", Thiel K. Sassmannhausen U., Arafah D.-E. and Recker K., ***Nucl. Inst. and Methods B*1** (1984) 282.
6. "Changes in RBS spectra resulting from surface charge effects", Arafah D.-E. and Townsend P.D., ***Nucl. Inst. and Methods B*4** (1984) 399.
7. "Lattice location of Ce implanted in CaF_2 ", Arafah D.-E., Georgiacodis D.N., Townsend P.D., Hogg C.W. and Chadwick A.V., ***Proc. Int. Symp. on Three Day in Depth Review of Particle Accelerator Impact in the Interdisciplinary Field,*** LNL-Padova, Italy, (1985) 38.
8. "PIXE facility at Jordan Van de Graaff accelerator", Saleh N.S., Hallak A.B., Saleh K.A. and Arafah D.-E., ***Appl. Phys. Comm.* 5(4)** (1985/86) 253.
9. "Assessment of Jordanian salt using nuclear techniques", Saleh K.A., Arafah D.-E., Jabr I.J. and Saleh N.S., ***Appl. Phys. Comm.* 7(3)** (1987) 195.
10. "Quantitative analysis of stainless steel using nuclear techniques", Abu-El-Haiga A.J., Saleh K.A., Arafah D.-E., Halim N.A., Kamal M.R., Khalifeh J.M. and Saleh N.S., ***Mat. Sci. and Eng.* 95** (1987) 267.
11. "Combined nuclear measurements of yeast", Saleh N.S., Saleh K-A., Arafah D-E. and Halim N.A., ***Nucl. Inst. and Methods B*23** (1987) 379.
12. "Anomalies in the depth distribution of Kr implanted into SiO2", Arafah D.-E., ***Phys. Stat. Solidi (a)* 103** (1987) K7.
13. "Orientation dependence of stopping powers studied in GaAs by nuclear reactions", Arafah D.-E., Qumri N. Meyer J.D., Thomas T. and Bethge K., ***IKF Annual Report,*** 1987, p.138.
14. "Inherent peculiarities in nuclear reaction analysis", Arafah D.-E. and Meyer J.D., ***J. Appl. Phys.* 64(3)** (1988) 1557.
15. "Charge-state measurements of backscattered ions from Au films", Arafah D.-E., Meyer J.D., Sharabati H.H. and Mahmoud A.M., ***Phys. Rev. A* 39(8)** (1989) 3836.
16. "Anomalous behavior in the performance of Van de Graaff accelerators", Arafah D.-E., Bulous B.R., Al-Ramadin Y.I. and Mahmoud A.M., ***Appl. Phys. Comm*. 9(1)** (1989) 99.
17. "Radiation enhanced diffusion of Ag produced by Ar implantation into Ag-doped glass", Sbouh A.K., Arafah D.-E. and Al-Ramadin Y.I., ***J. Phys.: Condensed Matter* 1** (1989) 5045.
18. "Changes in the composition of soda-lime glass resulting from Ag-doping", Sbouh A.K., Arafah D.-E. and Al-Ramadin Y.I., ***Mat. Sci. and Eng. B*3** (1989) 473.
19. "Fluence dependence of the depth distribution of Kr implanted into SiO_2", Arafah D.-E. and Shahin I.S., ***Dirasat* 17(2)** (1990) 129.
20. "Influence of electronic compensation on Rutherford backscattering spectra of biased insulators", Meyer J.D. and Arafah D.-E., ***Nucl. Inst. and Methods B*50** (1990) 109.
21. "Photoacoustic measurement of the absolute optical absorption coefficient of opaque solids", Shahin I.S. and Arafah D.-E., ***Dirasat* 18B (3)** (1991) 30.
22. "Characterization of pure ion-exchange and ion implanted glass", Arafah D.-E. Al-Ramadin Y. and Sharabati H., ***Proc. 1st. Int. Conf. on Condensed Matter Physics and Applications "ICCMPA"***, Bahrain University, 13-16 April, 1992, Bahrain, p.163-170.
23. "Aging effects of polypropylene used in heating systems", Arafah D.-E., Al-Ramadin Y., Hammad M. and Zihlif A., ***Radiat. Phys. and Chem*. 41(3)** (1993) 553.
24. "Radiation enhanced diffusion in ion implanted glass", Arafah D.-E. and Al-Ramadin Y., ***Appl. Phys. A* 56** (1993) 555.
25. "Nuclear reaction studies of pure, Eu-doped and $^{40}Ar^{+}$ ion irradiated CaF_2", Gaith B., Arafah D.-E. and Sharabati H., 3rd. ***European Conf. on Accelerators in Applied research and Technology, "ECART 93"***, 31 August - 4 September 1993, France.
26. "Materials analysis using nuclear techniques: Rutherford backscattering (RBS)" Arafah D.-E., ***Proceedings of the Atomic Arab Energy Agency***, 1994, 1-21.
27. "Parallel plate avalanche detector: construction and testing", Khayyat Kh.S., Arafah D.-E. and Sharabati H., ***Proceedings of the Atomic Arab Energy Agency***, 1994, 22-35.
28. "**أساسيات الكهرباء والمغناطيسية**" ، معروف عبد الله ، ضياء الدين عرفة وجميل خليفة ، 1995 ، دار الفكر ، عمان ، الأردن.

29. "Characterization of TL-glow curves resulting from sensitized TLD-100", Mahmoud A. G., Arafah D.-E. and Sharabati H., ***J. Phys. D: Applied Physics*** **31** (1998) 224-230.
30. "Processing effects on the structure of CdTe, CdS and SnO_2 thin films", Ahmad-Bitar R. and Arafah D.-E., ***Solar Energy Materials and Solar Cells*** **51** (1998), 83-93.
31. " Influence of substrate temperature on the preparation of CdTe and CdS thin films", Arafah D.-E. and Ahmad-Bitar R., ***Semiconductor Science and Technology***, **13** (1998) 322-328.
32. "Equilibrium charge state fractions of ^{4}He ions backscattered from Au-films", Arafah D.-E., ***ILL Nuovo Cimento D***, **20** (3) (1998) 261-271.
33. " Working life effects on the properties of plastic thermopipes ', Hammad M., Arafah D.-E., Al-Ramadin Y. and Zihlif A., ***J. Mater. Science***, **33** (1998), 4167-4171.
34. "Thermoluminescence in LiF TLD-100 after β-irradiation", AL_Turany M.H., Arafah D.-E. and Sharabati H., ***Dirasat***, **26**(2) (1999) 151-165.
35 "Ion beam mixing of Ag/Si bilayer", Masoud N. and Arafah, D.-E., ***Phys. Stat. Solidi (a)*** **172** (1999) .155.
36 "Induced defects and structural changes resulting from the processing of CdTe and CdS thin films", Arafah D.-E. and Ahmad-Bitar R., ***Solar Energy Mater. and Solar Cells*** **64** (2000) 45-54.
37. "Characterization of Defects Induced by $^{40}Ar^+$ Beam irradiation in Thin Films used for Solar Cell Devices", Arafah D.-E., Masoud N. and A. Mahmoud, ***Proceeding of the International Symposium on Utilization of Accelerators,*** Sao Paulo, Brazil 26-30 November, 2001. International Atomic Energy Agency (IAEA) Publications, 2002.
38. "Ion beam mixing of Ag/Si bilayer: flux dependence", Masoud N., Arafah, D.-E., and Becker, K.H., ***Nucl. Inst. and Methods,*** **209/210** (2003) 1111.
39. Maghrabi M. and D.-E. Arafah. 2003. Sensitization of the thermoluminescence response of CaF_2 phosphors, ***Phys. Stat. Sol. (a)*** 195, No. 2, 459– 467.
40. "Ion beam mixing of Silicon–Germanium for solar cell applications", Abedrabbo S., D.-E. Arafah, S. Salem, and N.M. Ravindra, ***13th. Workshop on Crystalline Silicon Solar Cell Materials and Processes,*** Vail, Colorado, August 10-13, 2003.
41. "Ion Beam Mixing of Silicon-Germanium Thin Films", Abedrabbo S., D.-E. Arafah and S. Salem, ***Journal of Electronic Materials***, 34(5) (2005) 468-473.
42. "Ion Beam Mixing for Processing of Nanostructure Materials", Abedrabbo S., D.E. Arafah, O. Gokce, L. Wielunski, O. Celik, and N.M. Ravindra, ***Journal of Electronic Materials***, 35 (5) 2006 834-839.
43. **Processing** and characterization of Nanostructures of silicon-on-dielectrics. Abedrabbo, S.; Arafah, D.-E.; Wielunski, L. S.; Gharaibeh, M.; Ravindra, N. M, ***The Minerals, Metals & Materials Society*** - TMS Letters (2006), 3(2), 33-34.
44. "The Effect of Rare Earth Doping on the Glow Peak Positions of $LiNaSO_4$, Maghrabi M., D.-E. Arafah, L. Barham and M. Olaimi, ***Radiation Measurements*** 42 (2007) 163-169.
45. Mixed Order and General Order Kinetics Applied to Selected Thermoluminescence Glow Curves, M Maghrabi, J Jundi and D.-E. Arafah, ***Radiation Protection Dosimetry*** *(2008) 130(3): 291-299 first published online March 12, 2008 doi:10.1093/rpd/ncn061.*
46. An IGBP National Committee in Jordan: another step towards environmental solutions in the Kingdom, Tareq Hussein and Dia-Eddin Arafah, iLEAPS News Letter, 8 (2009) 38-39.
47. "Fine Particle Number Concentrations in the Urban/Suburban Atmosphere in Amman, Jordan, Tareq Hussein, Rasha Abu Al-Ruz, Tuukka Petäjä, Dia-Eddin Arafah, and Markku Kulmala, Aerosol and Air Quality Resesrch, Accepted, 2010.
48. "Coincident Rutherford Backscattering Spectrometry: Novel Technique for Measuring Charge State Distributions in Violent Ion-Atom Collisions", H. Sa'adeh, R. Ali, and D.-E. Arafah, Annajah Research Journal, 2010.
49. "Charge-State Distributions of Energetic ^{4}He Ions Backscattered from Kr Gas Target", H. Sa'adeh, R. Ali, and D.-E. Arafah, to be submitted.