

CURRICULUM VITEA



Name: Maitha Dhaher Sultan El-Muraikhi

Nationality: Qatari

Qatar University Faculty of Art & Science

Department: Math & Physics Department

Program: Physics

Academic Degree: Ph.D Date of Last Degree: 1993

Institution of Last Degree: Ain shams University , Cairo- A.R.E.

Current Academic Rank: Associate professor in Physics.

Date of Last Promotion: 16-10-2003

Area of Interest: Solid State & Materials Science

General Discipline: Physics

Special Discipline: Applied Solid State Physics

Qualification

Title of the Ph.D thesis:

Study on phase transition in some double Sulphate crystals.

Research and Teaching Interests: Electrical, Optical and Thermal Properties of Polymers, Single Crystals and Glasses and Semiconductors, Solid State Physics, Thermodynamics, Quantum Physics, Modern Physics, Semiconductors, and General Physics

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List of Publications.

1. M. A. Gaffar, L. Al-Houty, M El-Muraikhi and A. A. Mohamed **The effect on the polarisation and piezoelectricity of triglycine sulphate crystals of doping with some divalent and trivalent ions.** J. Phys. C:Solid state Phys. **21** 1821-1829 (1988).
2. M. A. Gaffar, L.I. AL-Houty, M. AL-Muraikhi and A. A. Mohamed.
Investigations on the existence of a low-Temperature phase transition in triglycin sulphate single crystals, physics c :Solid State physics , Vol. 21, pp 1831-1838, (1988)
3. M. A. Gaffar, L Al-Houty, M.El-Muraikhi. **The effect of doping crystals of TGS with some di- and trivalent ions on its:dielectric constant and a.c. conductivity.** Qatar Univ. Sci. Bull. **7** 39-53 (1987).
4. M. E. Kassem and M. El-Muraikhi.**The influence of γ -irradiation on the thermophysical properties of potassium ammonium sulphate crystal .** Journal of Thermal Analysis. **37** 55-60 (1991).
5. M. E. Kassem and M. El-Muraikhi L Al-Houty, and A. A. Mohamed. **Critical behaviour in the commensurate-incommensurate phase transition of pure and γ -irradiation LiRbSO₄ crystals.** PhaseTransition, **38**, 229-236 (1992).
6. M. E. Kassem and M. El-Muraikhi L Al-Houty, and A. A. Mohamed. **Field induced phase in IC-C phase of LiRbSO₄ crystals.** PhaseTransition, **38**, 55-60 (1992).
7. M. E. Kassem and M. El-Muraikhi L Al-Houty, and A. A. Mohamed.**Specific heat of pure and doped LiRbSO₄ crystals.** Thermochimica Acta, **206** 107-111 (1992).
8. L Al-Houty, M. E. Kassem and M. El-Muraikhi and A. A. Mohamed **Diffuse phase transition in non-stoichiometric LiRbSO₄ crystals.** Qatar Univ. Sci. J. **12** 21-24 (1992).
9. M.E. Kassem, M. El-Muraikhi, L. Al-Houty and A. A. Mohamed, **Dielectric dispersion in pure and doped Lithium Rubidium Sulphate.** Radiation Effects and Defects in Solids, **138** 285-298 (1996).
10. M. El-Muraikhi , **Effect of electric field on optical properties of post gamma-irradiated lithium potassium sulphate crystals .**Materials Letters **51** 19-26 (2001)
11. M. El-Muraikhi, M.E. Kassem, and L Al-Houty, **Phonon assisted electronic transition in telluric acid ammonium phosphate single crystals .** Radiation Effects and Defects in Solids, **139** 155-161 (1996).

12. M. El-Muraikhi, M.E. Kassem, and Z. Mohammed .**Effect of γ -irradiation on the thermogravimetry of low density polyethylene** . Asian Journal of Spectroscopy **4** 139-144 (2000)
13. M. El-Muraikhi, M.E. Kassem, and A. E. Hamed.**Optical character sensitive effect based on deuterated and γ -irradiated TGSe** . J. Saudi Chem. Soc., **4 No.3** 311-318 (2000)
14. N. K. Madi , M.E. Kassem, M. El-Muraikhi,and A.M. El-Khatib, **Study on ferroelastic characteristics of gamma irradiated lithium potassium sulfate crystal** . Materials Letters **38** 154-159 (1999).
15. M. El-Muraikhi, M.E. Kassem, R. R. Amin and H. Mahmoud, **Effects of the electric field and gamma radiation on the optical properties of modified low density polyethylene** . Qatar univ. Sci. J **17(1)** 49-54 (1997).
- 16 M. E. Kassem, M. E. Bassiouni and M. El-Muraikhi, **The effect of γ -irradiation on the optical properties of polyoxymethylene compacts** . Journal of Materials Science: Materials in electronics **13** 717-719 (2002) .
17. M Al-Ali , N K Madi , Nora J. Al-Thani , M. El-Muraikhi , A. Turos , **Mechanical and thermal properties of gamma-ray irradiated polyethylene blends** . Vacuum **70** 227-236 (2003) . Published by Elsevier Science Ltd.
18. M.E. Kassema, M. Gaafara, M.M.H. Abdel Gawadb,M. El-Muraikhi and I.M. Ragab, **Combined effect of dopant and electron beam-irradiation on phase transition in lithium potassium sulphate** . Radiation Physics and Chemistry **69** 103-107 (2004) .
19. M. El-Muraikhi , M. E. Kassem, M. Gaafar, M. M. H. Abdel Gawad and I. M. Ragab , **On the preparation of electron sensor using the LiRbSO₄ samples** . Phys. Stat. sol.(a) **202**,No.1,163-169(2005).
- 20.M. El-Muraikhi , **Complex-impedance response of an Ag/TeO₂-V₂O₅/Ag structure**. Materials Chemistry and Physics **116** 52–56(2009).

Current research:

1- M.D. El-Muraikhi and R El-Mallawany , **Electrical Conductivity**

Semiconducting Tellurite Glasses .

3- M. El-Muraikhi, M.A. Al-Ali, N.K. Madi , N.J. Al-Thani

Thermal and Mechanical Behavior of Recycled High Density Polyethylene RHDPE: Effect of Blending .

1- Temperature and field effects of the dielectric dispersion of low density polyethylene used in cable jacketing .

2- Study of the effect of the external effects and the environmental conditions on some polymer to be used in practical applications .

3- Optical Band Gap Of TAAP Single Crystals In The Ferroelectric Phase.

Papers presented in conferences and workshops

- M. El-Muraikhi ,Radiation induced effects on the optical properties of modified low density polyethylene .4 th Arab international conference on polymer science and technology, September 8-11 ,(1997) Cairo, Egypt.
- M. El-Muraikhi , N K Madi , M.E. Kassem, Incident electron energy and dose effect on optical properties of modified polyvinyl chloride . Fifth International Conference on Frontiers of Polymers and Advanced Materials (ICFPAM), 21-25 June (1999) Poznan Poland .
- 3- Electric field induced degradation in modified polyvinylchloride . M.E. Kassem, M. El-Muraikhi, **International Workshop on Polymer and Environment** , 21-25 March (1999) Doha Qatar .
- 4- Optical character sensitive effect based on deuterated and γ -irradiated TGS, El-Muraikhi, M.E. Kassem, and A. E. Hamed. **The First National Symposium on Material M Science**, 30/11 -2/12 (1998) Riyadh
- 5- Effects of electric field and Gamma radiation on the optical properties of modified low density polyethylene M.E. Kassem, M. El-Muraikhi,R. R. Amin , **Polymer Technology & Applications, Workshop** organized by Scientific and Applied Research Centre in co-operation with Faculties of Science, Engineering and Technology , 8-10 April 1997 , Doha- Qatar.

- 6- Chemical synthesis , thermal properties and electrical studies for a n new chelating fulvene dimers, polymers and their metal complexes, L. Shahada, R.R. Amin M.E. Kassem, M. El-Muraikh. **Polymer Technology & Applications**, Workshop organized by Scientific and Applied Research Centre in co-operation with Faculties of Science, Engineering and Technology , 8-10 April 1997 , Doha Qatar.
- 7- **The design process for creating an electronic courseware using the modern system webCT**, 22-25, November 1998 , Doha- Qatar. (Participation).
- 8- **Quest 2002, Qatar United for The Environment, Science & Technology**, Doha, Qatar, January 2002.
- 9- **1st GCC Conference on Breast Cancer**, Qatar, 5-7 oct. 2003.
- 10- **3rd International Conference on Biophysics in Medicine and Biology**. On the preparation of electron sensor using the LiRbSO₄ samples M. E. Kassem, M. Gaafar, M. M. H. Abdel Gawad, M. El-Muraikhi and I. M. Ragab. Organized by The Egyptian Biophysical Society 20-22 October 2003 Cairo Egypt.
- 11- **Environmental Security Planning, Prevention, and Disaster Response in the Arabian Gulf Region** 15-18 September 2002 Doha Qatar.
- 12- **“The Arab International Conference in Recent Advances in Physics and Materials Science** Alexandria University, Egypt September 18 – 20 2005
- 13 -**1st International Conference on Materials Research and Education, Future Trends And Opportunities**. North Western Univ. Materials Research Institute and Univ. of Qatar and TEXAS A&M Univ. at Qatar April 4-6, 2005 .
- 14 -**2nd International Conference on Applications of Traditional and High Performance Materials in Harsh Environments**. Institute of Materials Systems "IMS" / School of Engineering American University of Sharjah– United Arab Emirates March 20-21 2006. 14 -**2nd International Conference on Applications of Traditional and High Performance Materials in Harsh Environments**. Institute of Materials Systems "IMS" / School of Engineering American University of Sharjah– United Arab Emirates March 20-21 2006.
- 15- **1st International Symposium on Innovations in Advanced Materials for Optics & Electronics (ISIAMOE-1-La Rochelle 2006)**. Université de La Rochelle, France June 14 -17 -2006 .

- **16- 1st Symposium on polymer chemistry** Department of Chemistry and Earth Sciences Qatar University April 18 -2007 .
- **17- The 1st International Conference on Materials Science & Nanotechnology** (Future challenges), NRC- Cairo- Egypt December 2-4 -2007.
- **18- The 3rd IMS International Conference on Applications of Traditional and High Performance Materials in Harsh Environments** . Institute of Materials Systems “IMS”/ School of Engineering American University of Sharjah United Arab Emirates January, 23 – 24, 2008 .
- **19- Blackboard (1)** .Office of Faculty and Instructional Development 30-31 January 2008
- **20- Science Teaching/Learning.** Office of Faculty and Instructional Development 24February 2008
- **21- Blackboard (2)** .Office of Faculty and Instructional Development 25-27 February 2008
- **22- QU Faculty Promotion Policy** (Seminar). Office of Faculty and Instructional Development 26 November 2008.
- **23- Fundamentals and Applications of Scanning and transmission Electron Microscopy.** The Central Laboratories Unit of Qatar University.22-23 June 2008
- **24- The 3rd International Conference of Chemical industries Research** . Division. National research Center (NRC) - Cairo- Egypt,16-18 December 2008.
- **25- QAFCO – TAMUQ CHEMISTRY Conference 2011.** QATAR FERTILISER COMPANY & TEXAS A&M UNIVERSITY at QATAR January 20,2011.
- **26- 3rd OFID Days** – “Active Learning and Assessment: Where Are We?” Date:13-15 February, 2012.

27- 2011 Global Congress on Science and Engineering ? GCSE 2011 with workshop of ICPST2011

Other activities

- Member in American Physical Society (APS). (2004)
- Member in The Arab Society of Material Science. (2000)
- Member in The Institute of Materials Systems “ IMS” School of Engineering (2006)
- I am listed in the Materials Chemistry and Physics database as potential reviewer.

- I had also refereed (examiner for students) Senior Project in Physics program .
- I was nominated by our college CAS to be the coordinator between CSA and Academic Evaluation Office.(since October 2008)
- I am a member in many of committees of The Department of Math & Static& Phys.

- Taught Courses:

Course No.	Course Title	No. of Semesters
Theory		
Phys.308110	General Physics	12
Phys.308202	Thermodynamics and heat	2
Phys.308203	Thermodynamics	4
Phys.308212	Modern Physics	1
Phys.308231	Quantum Physics	3
Phys.308341	Solid state (1)	7
Phys.308441	Solid state (2)	6
Phys.1052191-0	General Physics For Engineers(1)	3
Phys.1052193-0	General Physics For Engineers(2)	2
Phys.1052101-3	General Physics For Biology	1
Practical		
Phys.308110	General Physics	10
Phys.308101	General Physics	6
Phys.308202	Thermodynamic and heat	3
Phys.308341	Solid state (1)	7
Phys.308441	Advanced solid state (2)	6
Phys.1052192-0	General Physics For Engineers(1)	1
Phys.1052194-0	General Physics For Engineers(2)	1

A brief summary of my activities in materials research and education, in the context of regional and international collaborations.

My interest is based on the structure of materials (crystalline, Semiconducting Glasses and Polymers),

Investigated by thermal stability techniques (DSC, DTA, TGA), mechanical, and electrical measurements.

Study the influence of γ -irradiation , electric field and electron beam-irradiation on the thermophysical, Mechanical and optical properties of pure and doped single crystals. Study on ferroelastic and ferroelectrics (Critical behaviour in the commensurate-incommensurate phase transition of pure and γ -irradiation. Diffuse phase transition in non-stoichiometric , Dielectric dispersion in pure and doped single crystals).

Preparation and growing many kinds of crystals , glasses and polymers.

Both crystals ,glasses & polymers were subjected to study as:

Applications of Electrical Properties(conductivity and dielectric techniques)

Applications of Thermal Analysis (DSC ,TG)

Applications of Optical (UV , IR)

Applications of Mechanical Analysis.

Published 19 Papers in the coming Journals:

Radiation Effect and Defect in Solids, Vacuum, Physical state solids, Journal of materials science: Materials in electronics, Radiation Physics and Chemistry, Materials Letters, Thermochemica Acta, Phase Transitions, Journal Physics C.: Solid State Physics, Journal of Thermal Analysis, and Asian Journal of Spectroscopy. Materials Chemistry and Physics . Phys. Stat. Solids. Materials Chemistry and Physics.