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Education

1990 -1995	Ph. D. in Physics The University of Illinois at Chicago Chicago, USA, 1995.	THESIS: Vortex Flux Pinning in Type – II Superconductors
1983 -1986	M. Sc in Physics Yarmouk University Irbid - Jordan	THESIS: Determination of the Surface Modes Frequencies for a Two-Layer System by Using Integral Equation Formalism
1980 - 1983	B. Sc in Physics Yarmouk University Irbid - Jordan	

Scholarships:

Yarmouk University, first rank award student, 1982/1983
Irbid, Jordan.
Jordan University of Science and Technology, 1990 –1994

Research Interest:

Experimental Condensed Matter: "Magnetism and superconductivity"

Current Research: Mathematical physics and DFT

Work Experience:

2013 – 2016	Vice Dean of college of Arts and Science
2013 - 2015	High Research Committee member
2006 - Present	Professor, Department of Physics, Jordan University of Science & Technology, Irbid – Jordan
2009 – 2010	Professor, Jordan – **German University**, Amman – Jordan
2005 - 2008	Chairman of Physics Department
2006 – 2009	Professor, Department of Physics, Jordan University of Science & Technology, Irbid – Jordan
2001 -2006	Associate Professor, Department of Physics, Jordan University of Science & Technology, Irbid – Jordan
2002 -2003	Associate Professor, Department of Physics, **Bahrain University**, Isa Town
1995 – 2001	Assistant Professor, Department of Physics, Jordan University of Science & Technology, Irbid – Jordan
Summer 2000 Summer 1999 Summer 1998	Visiting Professor, Department of Physics, The University of Illinois at Chicago, Chicago, IL 60607

Books

1. Studies of High Temperature Superconductors
   (Advanced in Research & Applications) V36
   Edited by Anant Narliner
   Nova Science Publishers, Inc. Huntington,
   New York 2001 ISBN: 1-59033-025-0

2. M. Obaidat, B. A. Albiss, and **M.K. Hasan (Qaseer):**
   "Understanding the Roles of Heavy Ion and Gamma-Irradiations on the Magnetic and Transport Properties of Superconductors". **Accepted** for publication by Nova Science publishers Inc. as a chapter in a special volume entitled: "Superconductivity Research Advances".

PUBLICATIONS:

1. Bilal Aladerah, Abdalla Obeidat, Mohammad-Khair Qaseer, Abdel-Monem M Rawashdeh ,*Influence of structural modifications on mechanical and magnetic properties of Co2FeGa full Heusler alloys: A comparative study on L21 and XA structures* . Physica B: Condensed Matter, 2024. p. 415829.

2. Abdalla Obeidat, Samah Alqaiem, Ahmad Al-Qawasmeh, Mohammad Badarneh, **Mohammad-Khair Qaseer** *, Magnetic properties of copper fluorides (Cu2F5 inverse spinel-like structure): A Monte Carlo study* Physica B: Condensed Matter, 2023. p. 414698

3. Khaled Aledealat, Bilal Al-Aderah, Abdalla Obeidat, **Mohammad-Khair Qaseer**, Abdel-Monem M Rawashdeh*, Structural, electronic, and magnetic properties of X3Pt and XPt3 (X= Fe, Co, or Ni) alloys: Density functional theory and Monte Carlo simulation.* Physica B: Condensed Matter, 2023. p. 414615.

4. Abdalla Obeidat, Bilal Al-Aderah**, Mohammad-Khair Qaseer***, Influence of oxygen and nitrogendoping on the structure and magnetic properties of CoNi alloy: First principle calculations.* Journal of Physics and Chemistry of Solids, 2023. p. 111082.

5. Abdalla Obeidat, Bilal Aladerah, **Mohammad-Khair Qaseer***, Influence of oxygen and nitrogen doping on the structure and magnetic properties of FePt alloy: First principles calculations.* Computational Materials Science, 2023. p. 111963

6. Abdalla Obeidat, Bilal Aladerah, **Mohammad-Khair Qaseer***, Computational Study of Magnetic Properties of L10 ordered FeNi and FePt binary alloys.* Journal of Magnetism and Magnetic Materials, 2022. p. 169501

7. Maen Gharaibeh, Mohammad HA Badarneh, Samah Alqaiem, Abdalla Obeidat, **Mohammad-Khair Qaseer***, Magnetic properties and phase diagrams of mixed spin-1 and spin-1/2 Ising model on a checkerboard square structure: A Monte Carlo study.* Journal of Magnetism and Magnetic Materials, (2021) 540: p. 168458

8. M. Gharaibeh, M.H.A. Badarneh, S. Alqaiem, A. Obeidat, **M.K. Qaseer**, Magnetic properties and phase diagrams of mixed spin-1 and spin-1/2 Ising model on a checkerboard square structure: A Monte Carlo study, Journal of Magnetism and Magnetic Materials, 540 (2021) 168458

9. M Gharaibeh, A. Obeidat, **MK Qaseer**, M Badarneh*, Compensation and critical behavior of Ising mixed spin (1-1/2-1) three layers system of cubic structure.* Physica A: Statistical Mechanics and its Applications, (2020) 550: p. 124147

10. M. Gharaibeh, A. Obeidat, **M.K. Qaseer**, M. Badarneh, Compensation and critical behavior of Ising mixed spin (1-1/2-1) three layers system of cubic structure, Physica A: Statistical Mechanics and its Applications, (2020) 124147.

11. K. Aledealat , A. Obeidat; M. Gharaibeh; A. Jaradat; K. Khasawinah; **M. K. Hasan**; A. A. Rousan, "Dynamics of Duffing-Holmes oscillator with Fractional Order nonlinearity"., The European Physical Journal B, **92**, 233 (2019)

12. A.Obeidat, **MK. Hasan** and M. Badarneh,"Magnetic Properties and Critical and Compensation Temperatures in Mixed Spin-1/2–Spin-1 Ferrimagnetic-Centered Rectangular Structure Using Monte Carlo Simulation", IEEE Trans. Mag. **55**, 1 (2019)

13. K. Aledealat, K. Khasawinah, A. Obeidat, M. Gharaibeh, A. Jaradat, **MK Hasan (Qaseer)**, A. A. Rousan,"Sensitive detection Schemes for Small Variations in the Damping Coefficient Based on the Duffing-Holmes Oscillator with a Potential Application in Magnetic Sensing", AIP Advances **8**, 95102 (2018)

14. M-Ali H. Akhras, **M.K. Hasan Qaseer**, B.A. Allbiss, M. Anwar Alebrhim and Umar S. Gezawa, ' Ivestigation of Composition and Structure of Spongy and Hard Bone Tissue Using FTIR Spectroscopy, XRD and SEM" Materials Science and Engineering, **305**, 12010 (2018)

15. M-Ali H. Akhras, **Mohammad-Khair Qaseer**, B. A. AlBiss and Umar S. Gezawa,"Effect of Laser Beam on Temperature Distribution on Artificial Cylindrical shaped Hard Tissue Bones", Materials Science and Engineering, **305** 12013 (2018).

16. A. Jaradat, A. Obeidat, . Gharaibeh, K. Aledealat, K. Khasawinah, **M. Qaseer** and A. A. Rousan,"Simple Harmonic Oscillator with Fractional Electric Potential", Revista Mexicana de Fistca **63** Page 1 (2017)

17. K. Aledealat, A. Obaidat, M. Gharaibeh, A. Jaradat, K. Khasawiah, **Mohammad Qaseer** and A. A. Rousan,'Evolution of Bound and Scattering States in Fractional Heavside step-Dirac Delta Function Potentials", U.P.B. Bull, Series A Vol. 79 Iss 1, (2017)

18. A. Obeidat, A. Jaradat, R. Almomani and **Mohammad-Khair Qaseer**, "Solving Inhomogenous Nonlinear Differential Equations in Terms of Orthogonal Functions Using the Adomain Decomposition Functions", Applied Mathematical Science, Vol. **II**, no. 34 , 1673 (2017)

19. H M Al-Khateeb, M K Alqadi, B Albiss, **M K Hasan (Qaseer)** and N Y Ayoub, "Levitation and Lateral Forces Between a Point Magnetic Dipole and Superconducting Sphere", Chin. Phys. B **25** (5) 058402 (2016).

20. A.K. El-Qisairi, H. Qaseer, S,Alshahateet, **M.K. Hasan Qaseer**, M Zaghal, W. Al-Btoush, and L. Dawe, " Superolecular Interactions Involved in the Solid State Structure of N,N'-[bis(pyridine-2-yl)formylidene]ethane-1,2-diamine", Croat. Chem. Acta **87** (2) 123 (2014)

21. A. A. Obeidat, M A. Gharaibeh, D.H. Al SAamarah, **Mohammad. H. Qaseer** and N. Y. Ayoub,"Effect of Magnetostaic Dipoles Interaction on the Intial Suceptibility of a Dilute Ferrofluid in One Dimension", J. of Superconductivity and Novel Magnetism, **24**, 1911 (2011)

22. B A Albiss, N Al-Rawashdeh, N. Abu Jabal Alaa, M Garaibeh, I. M. Obidat, **M.K. Hasan (Qaseer)**, K. A. Azez, "Ploycrystalline $YBa_2Cu_3O_{7-\delta}$ with Nano-sized Al_2O_3 Inclusions, J. Superconductivity and Novel Magnetism, **23**, 1333 (2010)

23. A.A. Obaidat, M. A Garaibeh, I.M. Obaidat, D.H. Al Samarh , **M. K. Qaseer** and N Y Ayoub, " Effect of Magnetic Anisotropy in one Dimensional magnetic Particles", Jordan Journal of Physics, **3**, 17 (2010)

24. M Gharaibeh[1], I M Obaidat[2], B A Albiss[1] and **M. K. Hasan (Qaseer)**, " Enhansing the transport properties of Polycrystalline MgB_2 superconductors", Journal of Physics, 153, 12010 (2009)

25. I. M. Obaidat, M. Gharaibeh, B.A. Albiss, and **M.K. Hasan (Qaseer)**: "Vortex Creep Perpendicular to the c-axis in Crystalline and Grain-Oriented YBCO Superconductor"., International Journal of Modern Physics B, **23**, 673 (2009)

26. B. A. Albiss, I.M. Obaidat, M Gharaibeh, W. Hatamleh, S.A. Bathoum and **M.K. Hasan**, Magneto-transport properties of polycrystalline $YBa_2(Cu_{1-x}M_x)_3O_{7-\delta}$ (M=B and Mn), Crystal Research and Technology **44**, 930 (2009)

27. Obaidat, I.M., Albiss, B.A., Claus, H., Gharaibeh, M.**, Hasan, M.K.** *The influence of Pb-ion irradiation on melt-textured $YBa_2Cu_3O_x$ crystals* (2009) Crystal Research and Technology, **44** (2), pp. 206-210.

28. I. M. Obaidat, B.A. Albiss, H. Claus, M. Gharaibeh, and **M.K. Hasan (Qaseer)**: "Investigating the Roles of Pb-ion Irradiation on Melt-Textured $YBa_2Cu_3O_x$ Crystals". Crystal Research and Technology, 44(3) 281 (2009)

29. I. M. Obaidat, B. A. Albiss, M. Gharaibeh, and **M.K. Hasan (Qaseer)**: "Enhancing the Pinning Strengths in Polycrystalline MgB_2". Crystal Research and Technology, **44**, 281 (2009)

30. Albiss, B.A., Gharaibeh, M., Obaidat, I.M., Al-Rawashdeh, N., Oweis, R., Hamdi, N., **Qaseer, M.K.H.** *Magnetotransport and structural properties of superconducting BPSCCO thick film on MgO substrate* (2008) Physica Status Solidi (A) Applications and Materials, 2008 (8), pp. 1851-1854

31. H.M Al-Khateeb, B. Albiss, F.Y. Alzoubi, M.K. Al-Qadi, **M.K. Hasan (Qaseer)**, and N.Y. Ayoub, "Levitation Force Between Monolayer of Magnetic Particles and Superconducting Plane in Meissner state", IEEE Transaction on Applied Superconductors, 1051, 8223 (2008)

32. A.A. Rousan, N.Y. Ayoub, F.Y. Alzoubi, H.Khateeb, M. Al-Qadi, **M.K. Hasan (Qaseer)**, B.A. Albiss, " A Fractional LC-RC Circuit", Fractional Calculus and applied Analysis, **9**(1), 33 (2006)

33. Temperature Dependence of Vortex Flux Pinning in Polycrystalline $YBa_2Cu_4O_8$" **M.K. Hasan (Qaseer)**, K.A. Azez and N.Y. Ayoub, J. of Alloys and Compounds, 387 (2005) 44.

34. "Disappearance of the Reentrant Spin Glass phase in $Fe_{0.7-x}R_xAl_{0.3}$, (R = Mn or V)", **M.K. Hasan(Qaseer)**, K.A. Azez, N.Y. Ayoub, Acta Physica Slovaca, 54 (2004) 459.

35. "Temperature Dependence of Vortex Flux Pinning in Grain-Oriented $YBa_2Cu_3O_7$", **M.K. Hasan (Qaseer)**, J. of Alloys and Compounds, 363 (2004) 75.

36. "Temperature Dependence of Vortex Flux Pinning in Melt Textured Superconductors", I.A. Al-Omari, **M.K. Hasan (Qaseer)**, A. Rais, K.A. Azez Phys. Stat. Sol. C 1, No. 7 (2004)1821

37. "Anisotropic Vortex Flux behavior in Grain-Oriented $YBa_2Cu_3O_7$", **M.K Hasan (Qaseer)**, J. of Alloys and Compounds, 375 (2004) 34.

38. "Effect of Mn Concentration on the Spin Glass transition Temperature of $Fe_{0.7-x}Mn_xAl_{0.3}$ alloy", K.A. Azez, **M.K. Hasan (Qaseer)**, I.A. Al-Omari, J. of Alloys and Compounds, 360 (2003) 69.

39. "Transverse Field Effects on the Remanent Magnetization of Ferromagnetic Particles and a Type-II Superconductor", H.P. Goeckner, I.M. Obaidat, **M.K. Hasan**, and J.S. Kouvel, Physica B 321 (2002) 234

40. "Effect of γ-irradiation on PloycrystallineTl$_1$Ba$_2$Ca$_2$Cu$_3$O$_y$ Superconductor", B.A. Albiss, A. El-Ali, KH. Khasawineh, **M.K. Hasan (Qaseer)**, I. Al-Omari, K.A. Azez, and J. Shobaki, Physica B 321 (2002) 324.

41. "Temperature Dependence of Vortex Flux Pinning in Polycrystalline GdBa$_2$Cu$_3$O$_7$", K.A. Azez, J. Shobaki, **M.K. Hasan (Qaseer)**, and I.A. Al-Omari, J. of Alloys and Compounds, 346 (2002) 260.

42. "Magnetic , X-ray diffraction, and Mössbauer Spectroscopy Studies of Nd$_2$Fe$_{15}$Ga$_2$C$_x$ magnets", J. Shobaki, I.A. Al-Omari, **M.K. Hasan**, K.A. Azez, S.H. Mahmood, and D.J. Sellmyer, Physica B, 321 (2002) 173.

43. "Mössbauer Spectroscopic and Structure Investigation of the Fe$_{0.7-x}$T$_{ix}$Al$_{0.3}$ Alloy System", K.A. Azez, I.A. Al-Omari, J. Shobaki, **M.K. Hasan**, G.M. Al-Zoubi, and H.H. Hamdeh, Physica B 321 (2002) 178.

44. "The Paramagnetic Contribution in the Magnetization Behavior of Y$_{1-x}$Gd$_x$Ba$_2$Cu$_3$O$_7$", A El Ali, K. A. Azez, I.A. Al-Omari, J. Shobaki, **M.K. Hasan (Qaseer)**, B.A. Albiss, Kh.Khaswnieh, KH. A. Ziq, and A.F. Salem, Physica B 321 (2002) 320.

45. "Effects of Transverse Magnetic Field on Pinned Vortices in Polycrystalline YBa$_2$Cu$_3$O$_{7-\delta}$", **M.K. Hasan** and J.S. Kouvel, Physica C 361, (2001) 239.

46. "Magnetic and Structural Properties of GdFe$_{2-x}$Ti$_x$ Alloys", I.A. Al-Omari, M.A. Al-Akras, **M.K. Hasan**, J. Shobaki, and K.A. Azez, J. Alloys and Compounds 319, (2001) 34.

47. "Magnetic and Structural Properties of GdFe$_{2-x}$Ti$_x$ Alloys", I.A. Al-Omari, M.A. Al-Akras, **M.K. Hasan**, J. Shobaki, and K.A. Azez, J. Alloys and Compounds 319, (2001) 34.

48. "Changes in Vortex Pinning Produced by Fe Doping of polycrystalline YBCO", **M.K. Hasan**, J.S. Kouvel, Physica C 355, (2001) 307.

49. "Rotational magnetic measurements of vortex flux pinning in Nb at 4.2 K", M-Ali Al-Akhras, I.A. Al-Omari, **M.K. Hasan**, and B.A. Albiss, Solid State Commun., 118 (2001) 387.

50. "Effect of Extremely Low-frequency Magnetic Field on Fertility of Adult Male and Female Rat", M.A. Alakhras, A. ElBetieha, **M.K. Hasan**, I.A. Al-Omari, H. Darmani, and B.A. Albiss, Bioelectromagnetic, 22 (2001) 340.

51. "Mossbouer and Structural Studies of $Fe_{0.7-x}V_xAl_{0.3}$ alloys",J. Shobaki, I.A. Omari, **M.K. Hasan**, K.A. Azez, M.Ali H. Al-Akhras, B.A. Albiss,H.H. Hamdeh, and S.H. Mahmood, J. Mag. Mag. Matt. 213, (2000) 51.

52. "Dissipative Behavior of Sliver Sheated $Bi_{1.8}Pb_{0.4}Sr_2Ca_2Cu_3O_x$ tape, B.A. Albiss, **M.K. Hasan**, M.A. Al-Akras, K. Azez, I.A. Al-Omari, A. Shariah, J. Shobaki, and H. Ozkan, Physica C 331, (2000) 97.

53. "Temperature dependence of the vortex pinning enhancement by Gamma irradiation of $Bi_{1.6}Pb_{.4}Sr_2Ca_2Cu_3O_{10}$" **M.K. Hasan**, B.A. Albiss, I.M. Obaidat, S.J. Park , J.S. Kouvel, Physica C. 333, (2000) 337.

54. "Temperature Dependence of Vortex Flux Pinning with γ-Irradiation in Polycrystalline Tl-2223", J. Shobaki, **M.K. Hasan**, K. Khasawneh, A.B. Albiss, I.A. Al-Omari and Saleh Obaidat, Super.Cond.Scin. & Technol. 13, (2000) 909.

55. "The Rotational magnetic process and effects of Gamma irradiation on vortex flux pinning in Tl-2223 at low temperatures", **M.K. Hasan**, J. Shobaki, I.A. Al-Omari, B.A. Albiss, M.A. AlAkhras, K.A. Azez, A.K. El-Qisari and J.S. Kouvel, Super. Cond. Scien and Technol., 12, (1999) 606.

56. "Various vortex properties of YBCO and BSCCO polycrystals and their departure from critical-state model", S.J. Park, **M.K. Hasan** and J.S. Kouvel, Physica C, 325, (1999) 1106.

57. " Effect of Gamma irradiation on the transport critical current density of $Tl_2Ba_2Ca_2Cu_3O_{10}$", **M.K. Hasan**, M.A. Al-Akhras, B.A. Albiss, I.A. Al-Omari, K.A. Azez and J. Shobaki, Super. Cond. Scien. &Technol., 12, (1999) 1106.

58. 26. "Vortex Flux Creep in Polycrystalline YBCO following Rotations in Magnetic Fields", **M.K. Hasan**, J.S. Kouvel, Physica C 276, (1997) 289.

59. "Remanent vortex flux from rotational magnetic states of a polycrystalline superconductors" , **M.K. Hasan** and J.S. Kouvel Physica C, 258, (1996) 72.

60. "Vortex pinning in polycrystalline $Eu_{1.5}Ce_{.5}Sr_2Cu_2Nb_{10}$", **M.K. Hasan**, J.S. Kouvel, H.B. Radousky, T.J. Goodwin and R.N. Shelton, Physica C 270, (1996) 216.

61. "Vortex Cross-flux effects and directional scaling in YBCO crystals", S.J. Park, **M.K. Hasan**, and J.S. Kouvel, Physica C 255, (1995) 173.

62. "Rotational magnetic measurements of vortex pinning in polycrystalline type-II superconductors", **M.K. Hasan**, S. J. Park, and J.S. Kouvel, Physica C 254, (1995) 323.

63. “Vortex flux creep and its hysteretic changes with magnetic field in type-II superconductors”, **M.K. Hasan**, S.J. Park, and J.S. Kouvel,: J. Mag. Mag. Matt. 131, L1 (1994).