


<p><b>Name: Mohamed A. Mansor Mosbah</b>  <b>(publication name: M. Mansor)</b>  <b>Job:</b> Faculty member in Physics Department Science faculty at University of Tripoli  <b>Title:</b> Professor  <b>Degree:</b> PhD in theoretical physics (superconductivity)  <b>Date of Birth:</b> 1964  <b>Nationality:</b> Libyan  <b>Marital Status:</b> Married</p>	
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**Education History:** Primary and secondary schooling in Tripoli Libya  
Higher education (B.Sc, M. Sc. And Ph. D) in Canada from 1983 to 1995  
Honors B.Sc. double concentration (Chemistry and Physics) from Laurentian University in Ontario Canada (1988.) M. Sc. In physics from Laurentian University in Ontario Canada (1990.) Ph. D. In physics from McMaster University in Ontario Canada (1995.)

**Scientific history:**

Dean’s list in third year of university education. - Teaching graduate physics courses in our graduate program including (Mathematical physics, Quantum mechanics, Electromagnetic theory and Numerical methods in physics.) - Head of scientific committee for the international year of physics in 2005 in university of Tripoli. - A member of the scientific committee of University of Tripoli form the year 2008 till 2015. - Head of the graduate committee in the physics department from 2008-2012. Head of physics department in University of Tripoli from 2021 till present.

**Scientific interests:**

My main interest is in theoretical physics in branches of superconductivity and quantum mechanics and numerical simulations. I have also special personal interest in astrophysics where I gave few public lectures about measuring the distance to the stars, special and general relativity in the activities of the international year of physics in 2005. My general goals are to improve university education and link it to the needs of society and also to

connect to international universities and institutions. Currently I am involved in supervising few M.Sc. projects concerning , nonlinear optics, Monte Carlo simulations of helium dot, Metric investigation of static spherical mass, Applying transmission line method to band theory in one dimension. Also doing extension of the Diffusion Schrodinger Equation Method in one dimension to calculate excited states of symmetric potentials.

**Finished M. Sc. supervision:**

- 1- Eigenvalues and Eigenfunctions for Schrödinger Wave Equation Obtained by Transmission Line, University of 7th of October (2004)
- 2- Fluxoid Interactions in Type II Superconductors, University of 7th of October (2005.)
- 3- Hartree-Fock Numerical Calculations for Helium Atom, University of 7th of October (2005.)
- 4- Hartree-Fock Calculations of Electrical Levels for the Lithium Atom, University of Tripoli (2009.)
- 5- Hartree-Fock Numerical Calculations of Energy Levels of Beryllium Atom and Its Ions, Academy of Graduate Studies (2009.)
- 6- The Superconductivity in the Two Dimensional Hubbard Model, Academy of Graduate Studies (2010.)
- 7- Simulation of Gradient Echo in MRI in One Dimension, University of Tripoli ( 2010.)
- 8- Study of Onset of Superconductivity and Antiferromagnetism in Strongly Correlated Two Dimensional Lattice, Zawia University ( 2010.)
- 9- London Penetration Depth of High Tc Superconductors, Zawia University ( 2011.)
- 10- Computation of Dispersion Relations in Photonic Crystals in One and Two Dimensions Using Plane Wave Expansion, University of Tripoli ( 2012.)
- 11- Numerical Solutions to Nonlinear Schrödinger Equation in Silicon Waveguides, University of Tripoli (2014.)
- 12- Simulations of Magnetic Resonance Imaging Sequences (MRI) in One Voxel, University of Tripoli (2016.)

- 13- Effect of Phosphate Fertilizers Application on Radium  $^{226}\text{Ra}$  Concentration in Local Sand Using Plastic Detectors, University of Tripoli (2016.)
- 14- The Effect of Increasing Carbon Dioxide Concentration on the Temperature of Earth Atmosphere, University of Tripoli (2016.)
- 14- Calculation of Ground State Energy of Quantum Dots by Diffusion Monte Carlo (DMC), University of Tripoli (2017.)
- 15- Calculation of the transmission coefficient in one dimension for a set of finite periodic potentials using the transfer matrix method, University of Tripoli (2020.)
- 16- Kondo Effect in 2D tight binding model, University of Tripoli (2021.)
- 17- Calculations of Electronic Energy Bands in One Dimension Using Transmission Line Method, University of Tripoli (2022.)
- 18- Calculations of concentration rate and solar flux distribution for solar collector of squared focal area designed from perpendicular and parallel Fresnel mirrors, University of Tripoli (2022.)

### **Publications:**

- 1- Mansor, M. and J. P. Carbotte, Phys. Rev. **B 47**, 9029 (1993.)
- 2- Arbreg, P. ,M. Mansor and J. P. Carbotte, “ Penetration Depth for a 2D D-Wave Superconductor.” Solid State Commun. **86**, 671 (1993.)
- 3- Arbreg, P. ,M. Mansor and J. P. Carbotte, J. Phys. Chem. Solids **54**, 1461 (1993.)
- 4- R. Said, M. Mansor and T. Abuain, “ Estimation of Global and Diffuse Radiation at Tripoli.” Renewable Energy , Vol. **14**, Nos. 1-4, pp. 221-227 (1998.)
- 5- M. Mansor , T. S. Sherif and S. A. Swedan, “ Improved Simple Numerical Method Using the Diffusion Equation Applied for Central Force Bound Quantum Systems.” Journal of Basic and Applied Sciences, **14**, 72 (2004. )
- 6- Mansor, M. and J. P. Carbotte, Phys. Rev. **B 72**, 024538 (2005.)
- 7- T. S. Sherif , A. A. Abuazza and M. Mansor , “ Construction of Mercury Vapour-ion Laser.” Journal of Basic and Applied Sciences, **17**, No. 1, 32 (2007.)

- 8- T. S. Sherif and M. Mansor , “ Application of the Transmission Line Method to the Bound Potential of the Hydrogen Atom and Three Dimensional Harmonic Oscillator.” Alacademia Journal for Basic and Applied Sciences, **1**, No. 1, 71 (2007.)
- 9- M. Mansor et al “ Collisions of like particles in the presence of a magnetic field, Part I: Theory .” , presented in the Second Basic Sciences Conference held in Tripoli-Libya on 4-8/11/2007.
- 10- M. Mansor et al “ Polar Tracking of Azimuthally Rotating Five-Component Detectors.”, Journal of Basic and Applied Sciences vol.**18**, No.2pp 4-36,2008.
- 11- M. Mansor, and A. A. Abuazza, “ Solution Nature of nonlinear Schrodinger Equation.” Lib. J. Sci. Vol. **16 A**, (2008) 109-115.
- 12- M. Mansor et al “ Hartree Fock Calculations of electronic levels in Lithium ion  $Li^+$ .”, Presented at the third national conference for basic science in West Mountain University in Ghyrian, Libya (2009.)
- 13- M. Mansor et al “ On the Helium Energy Levels Hartree numerical calculations.” , Lib. J. Sci. Vol. **17**, No. 1.(2013) 11-15.
- 14- M. Mansor et al “ Hartree Fock Numerical Calculations for Helium Atom .” , Industrial research journal Yr. 18 No. 28 (2013) 105-112.
- 15- Huwaida K. Elgweri and M. Mansor, “ First Excited State Solutions of Schrödinger Equation by the Diffusion Method Applied to Various One Dimension Problems.” Journal of Academy for Basic and Applied Sciences Vol. **14**, No. 1 Jun (2015) 1-4.
- 16- Almusrati N. et al “Effect of Phosphate Fertilizers Application on  $^{226}Ra$  and  $^{40}K$  Concentrations in Cultivated Soil Samples in Libya.” Twelfth Arab Conference on the Peaceful uses of Atomic Energy, Sharm El-Sheikh, Arab Republic of Egypt, 16-20 May 2015.
- 17- Huwaida K. Elgweri and M. Mansor , “ Application of Grimm-Storer Diffusion Approximation Method to Schrödiger Equation with Short Range Potential in one Dimension.” Libyan Journal of Science Vol. **18**, (2015) 63-72.
- 18- Nadia Gedafi et al “Computer Simulation of One Dimension Spin Echo Sequence for Magnetic Imaging.” Libyan Journal of Science Vol. **19 A**, (2016) 69-85.

- 19- Huwaida K. Elgweri and M. Mansor , “ Calculation of Positive Spectrum for the Higher Excited States Using Grimm and Storer Diffusion Method.” Libyan Journal of Science Vol. **20**, (2017) 33-42.
- 20- Hawa M. Alhrari, Huwaida.K. Elgweri, Mohamed.Mansor, “Application of the Transmission Line Method to Calculate the Energy Bands for an Electron in One Dimensional Lattice”, The Libyan Journal of Science (An International Journal ): Volume 23 (2020).
- 21- Huwaida.K.Elgweri, Amal.Hamed, Mohamed.Mansor , “Obtaining the Higher Excited States in Two Dimensions Using the Finite Difference Time Domain Method”, 2021 IEEE 1st International Maghreb Meeting of the Conference on Sciences and Techniques of Automatic Control and Computer Engineering MI-STA, 25-27 May 2021, Tripoli-Libya.(IEEE Xplore).
- 22- Huwaida.K.Elgweri, Amal.Hamed, Mohamed.Mansor, “ Calculating the Lower Angular Excited States in Two Dimensions Using the Finite Difference Time Domain Method”, International Conference on Advanced Engineering Technology and Applications, ICAETA, 09-11 July 2021, Istanbul, Turkey.
- 23- Amal.Hamed, Huwaida.K.Elgweri, Mohamed.Mansor, “Calculation of the Lower Angular Excited States for Two Dimensional Finite Rectangular Well Potential Using Finite Difference Time Domain Method”, International Science and Technology Journal. Volume 26 (2021).
- 24- AmalHamed, Huwaida.K.Elgweri, Mohamed.Mansor, “The Solutions of Two Dimensional Finite Square Well Potential Problem Using the Finite DifferenceTime Domain Method”, 2021 IEEE 2nd International Conference on Signal, Control and Communication (IEEE-SCC 2021)December 20 – 22, 2021, Hammamet - Tunisia.(IEEE Xplore).
- 25- Huwaida K. Elgweri , Amal Hamed , and Mohamed Mansor” Numerical Solutions of Finite Well in Two Dimensions Using the Finite Difference Time Domain Method” Journal of Physical Science and Application: 12 (1) (2022), p 12-18.
- 26- FARAG G. ELMZUGHY and MOHAMED MANSOR “ROTATIONAL BARRIER OF DIATOMIC POLAR IMPURITIES IN POTASSIUM CHLORIDE CRYSTAL STRUCTURE”

