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OBJECTIVE

To work with dedication and honesty in the field of Nanoscience (Physics) so that my skills can bestow better outcomes

PRESENT DESIGNATION

Working as an Assistant Professor at King Abdullah Institute for nanotechnology, King Saud University, P.O. Box-2460, Riyadh-11451, Saudi Arabia since early 2010.

ACADEMIC QUALIFICATIONS

2005-2009 **PhD (Nanomaterials)** from Department of Applied Physics, Zakir Hussein College of Engineering and Technology, Aligarh Muslim University, Aligarh, 202002, India.

Advisor: Prof. Alimuddin. (Advisor, Research and Ex. Head of the Department)

Thesis Topic "study of synthesis, electrical and magnetic properties of spinel nano ferrites"

2003-2005 **M.Sc. (Physics)** from Dr. Beam, Rao Ambedkar University, Agra **First division.**

WORK DONE DURING PHD COURSE

1. Fabrication of Magnetic nanoparticles (Ferrites and dilute magnetic semiconductors) through chemical route methods and solid-state reaction methods.
2. Thin film deposition through Pulse laser deposition technique and RF/DC magnetron sputtering system and their characterization such structural, morphological, optical properties.
3. The study of structural, transport electrical and magnetic properties of ferrite nanoparticles.
4. Swift Heavy Ion (SHI) irradiation using the 15UD-Pelletron facility in order to tune the properties of the powder and thin film materials by irradiation of SHI and their characterization such as structural, transport electrical and magnetic and optical properties with respect to the pristine sample. .

AWARDS AND ACHIEVEMENTS

2007-2010 ***Junior Research Fellowship (JRF)*** from Inter University Accelerator Centre (Govt. of India), New Delhi.

2008 **Received a travel grant from Department of science and Technology, (DST) New Delhi, India for "**The international conference on nanotechnology, opportunities and challenges ICON008" held at King Abdul Aziz University, Jeddah, Saudi Arabia.

2009 **Received a travel grant from CSIR, New Delhi, for** The International conference for Nanotechnology industries the leading technology of 21st century" held at King Saud University, Riyadh, Saudi Arabia**.**

INTERNATIONAL LEVEL ACHIEVMENTS

- Received an excellent award along with a certificate from Dover publications New York, U.S.A. in 1998 for the academic excellence

TEACHING ACTIVITIES

- During the course of Ph.D. remained involved in instructing B. Tech and M. Tech Students in their Lab. Course (2007-2009).

RESEARCH AND TEACHING EXPERIENCE

- I am having a research and teaching experience of more than 6 years excluding PhD.

EDITOR OF JOURNALS

1. Journal of Bioelectronics and nanotechnology.
   www.avensonline.org

REVIEWER TO INTERNATIONAL JOURNALS

- Nanoscience and Nanotechnology Letters, published by American Scientific, Publishers.
- Transactions of Nonferrous Metals Society of China.
- Journal of Alloys and Compounds published by Elsevier
- Journal of Applied Physics A, Published by Springer.
- Journal of Current Applied Physics, Published by Elsevier.
- Journal of Materials Science & Engineering B published by Elsevier.
- Journal of Magnetism and Magnetic Materials published by Elsevier.
- Advanced Powder Technology published by Elsevier.
- International Journal of Applied Ceramic Technology published by Wiley.
- Powder Technology published by Elsevier.
- Arabian journal of chemistry, Published by Elsevier.
- Materials Characterization, Published by Elsevier.
- Microelectronics Reliability, Published by Elsevier.

MEMBERSHIP PROFESSIONAL SOCIETIES

- Life time member of Board of Nano Society of South Valley University, Qenna, Egypt.
- Life time membership of Rajasthan Science Congress Association (RSCA).
- Life time membership of Himachal Pradesh Nano Society, India.
- Life time Membership of NGO *Centre for Advanced Research and Development, Jaipur* India.

- Member of the BIT's world congress of Nanoscience and nanotechnology, Xian, China.
- Member of the Nanoscience and Nanotechnology society, Ankara, Turkey.
- Member of the science society of the King Abdul Aziz City for Science and Technology, Riyadh, Saudi Arabia.

AREA OF RESEARCH INTEREST

- **Magnetic nanomaterials.**
- **Spintronics.**
- **Superconductivity**
- **Multiferroic and Magnetoelectric Materials**
- **Magnetic multilayer's (MTJsas GMR)**
- **Magnetic layered double hydroxide (MLDH).**
- **Solar cells**
- **Graphene technology**

MY RESEARCH INTERESTS

- My research interests are focused on understanding the structural and electromagnetic properties of functional oxide materials such as: nano-magnetic materials (Ferrites, multiferroic, multilayers), dilute magnetic semiconductor materials (DMS) and their applications in modern technology for device making such as in high density data storage, non-volatile memories (MRAM), and applications in biomedical science, such as synthesis of magnetic nanoparticles for drug delivery applications for the treatment of hyperthermia.
- My research also focuses on the synthesization of various magnetic nanomaterials and their size and doping effects over the structural and transport electromagnetic properties. As a well-established fact, we know that magnetic materials are backbone of modern technology. Soft magnetic materials find great applications in high frequency devices; such as microwave devices, in computers for read and write memories. My focus is to understand the transport electromagnetic properties to evaluate the ferromagnetic

ordering, spin canting, spin pinning effects, cation distribution and size effects and their applications for day today technology.

- At present my working area also includes the Magnetic tunnel junctions (MTSs) in order to build high-density data storage **Giant Magneto Resistance** (GMR) with a high transmission magneto resistance (TMR) ratio.
- Designing and fabrication of efficient solar cells using multilayer junction and single cell systems.

PROJECTS COMPLETED

1. Title: - "***Study of modifications induced in structural, electrical and magnetic properties of spinel nano ferrites" sponsored by the Inter University Accelerator Centre, New Delhi, India. (10th April 2007-9th April 2010).***

   Role: Principal Investigator

   Budget:- 7000.00 USD.

   Project Code:-

2. **Title: -*"Design and characterization of nano composite multiferroic materials for new generation Read Access Memory (RAMs) devices.***

   ***(Approved by National plan of science and technology, Saudi Arabia)*. (01-06-2012 to 31-12-2014)**

   Role: Principal Investigator

   Budget: - 422, 4000.00 **USD**

   Project Code:- 10NAN1200-02

3. **Title: -*"Synthesis of magnetic nanomaterials and characterization".***

   (Approved by Deanship of Scientific Research King Saud University, Riyadh,, Saudi Arabia).

   Role: Co-Investigator

   Budget: - 4000.00 **USD**

   Project Code:- RG-

PROJECTS UNDERGOING

1. **Title: -*"Interface magnetization and structure in magnetic oxide nano composites"*.**

   (Approved by National plan of science and technology, Riyadh-Saudi Arabia)

   Role: Principal Investigator

   Budget: - 310,933.00 USD

   Project Code:- 10NAN1999-02

2. **Title: - *"Synthesization of doped SnO_2-based materials and their subsequent irradiation with swift heavy ions: Materials for Gas sensing applications"***

   (Approved by King Abdul Aziz City of Science and Technology, Riyadh-Saudi Arabia)

   Role: Principal Investigator

   Budget: - 490, 66.00 **USD**

   Project Code:- MY-3532

MASTERS AND PHD STUDENTS UNDER SUPERVISION/SUPERVISED

Maters Student:-

1. **Co-supervisor:-**Sara Assiri, Department of Physics, King Faisal University, Alhasa, Alhafouf, Damam, Saudi Arabia (Sept. 2012-2014). (**Awarded**)

   Title of dissertation: Preparation, characterization and evaluation of magnetic nano-structural materials

2. **Co-supervisor:** Magdi Said Abdullah Zehraani, department of Physics, King Saud University, Riyadh Saudi Arabia, (working)

   Title of dissertation: Structural, Electrical and Magnetic Properties of Cobalt Ferrite Thin Films Grown by Pulsed Laser Deposition

EXPERIMENTAL SKILLS

- ***Sample preparation*** (nanoparticles) using chemical route (sol-gel, auto combustion, co-precipitation, hydrothermal) methods.
- ***Bulk nano particles*** using high-energy ball-milling and solid state reaction technique.

- ***Thin film preparation*** using Pulsed Laser Deposition (PLD), E-beam and dc/rf-magnetron sputtering technique.

CHARACTERIZATION TECHNIQUES KNOWN

Structural:	X-ray diffraction (XRD), scanning electron microscopy (SEM), energy dispersive X-ray (EDX), transmission electron spectroscopy (TEM).
Optical spectroscopy:	UV-spectroscopy, IR spectroscopy, Raman and Photoluminescence spectroscopy, X-ray photo spectroscopy (XPS) and Near edge X-ray fine structure (NEXFAS)
Magnetic measurements:	Mossbauer spectroscopy, dc magnetization.
Electrical measurements:	Dielectric spectroscopy, impedance spectroscopy, dc conductivity, resistivity measurements, thermal conductivity (all measurements as function of temperature and frequency).
Topography Study:	Atomic force magnetometer (AFM)

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EXPERTISE IN HANDLING INSTRUMENTS

Mossbauer spectrometer, Vibrational sample magnetometer (VSM), LCR meter, Impedance analyzer, Raman spectrometer, Transmission electron microscope (TEM), Electrometer (Kithley), X-ray diffraction (XRD), UV-Spectrometer and IR-spectrometer.

ANALYSIS TECHNIQUES AND COMPUTER SOFTAWARES

WINDOWS based software's like MS-Word, excel, WordStar, Power point, Microsoft word-2007.Origin, Powder X, JCPDS and for X-ray diffraction, DOS based NORMOS and Genei-2000 software for Mossbauer analysis, *Z-view* and *Z-plot* software for Impedance analysis, Image *j and Gaton* software for TEM characterization.

INVITED TALKS

1. ***"Entrepreneurial Opportunities in Nanotechnology"*** National Conference On Entrepreneurship Development, Government Degree College Bemina, Srinagar, Jammu and Kashmir, India, on 14 &15th Sep-2015.

2. ***"Nanoscience, the science of small size"*** Government Degree College Sopore, Jammu and Kashmir, India, on 8th August 2015.

3. ***"Wonders of nanoscience, its applications and future"*** Government Degree College For Women, Molana Azad Road, Srinagar, Jammu and Kashmir, India, on 10th August 2015.

4. ***"Transport properties of magnetic tunnel junctions embedded in MgO matrix"*** Nano science and nanotechnology conference Middle East technical University Ankara, Turkey, 22-25, June 2015.

5. ***"Spin-dependent tunneling in magnetic tunnel junctions embedded in an MgO matrix",*** The 2nd International conference on nanotechnology and Applications at South Valley University, Qena, 23th-26th Feb. (2015) Egypt.

6. "***Tuning of multiferroic properties in ferroelectric materials for the application of read access memory devices****"*, National Conference on Materials and their energy applications, Department of Physics, S.S. Jain Subodh P.G. College, Ram Bagh, Jaipur, Dec. 22nd-24th, 2014, India.

7. ***"Tuning of ferroelectric properties in d^0 magnetization based materials for the application of Random access memory devices"*** International conference on small science, Dec.8th-11th, 2014, Kowloon, Hong Kong.

8. ***"Design and characterization of d^0*** **magnetization based materials as ferroelectric materials for the application RAM devices",** in International conference on electron microscopy and XXXV annual meeting of the electron microscope society of India (EMSI) University of Delhi, July 9-11, 2014, India.

9. **"*PLD assisted deposition and characterization of Nd doped $Bi_{4-x}Ti_3O_4$ ferroelectric thin films*",** The Ist International conference on nanotechnology and Applications at South Valley University, Qena, 25th-28th Feb. (2014) Egypt.

10. ***Hyperfine interaction and magnetic properties of $CoFe_2O_4$ Ferrite nanoparticles at room temperature***, The I[st] International conference on nanotechnology and Applications, South Valley University, Qena, 25[th]-28[th] Feb. (2014) Egypt.

11. ***"Magnetic and Mossbauer properties of Al doped Ni-Cd ferrite nanoparticles synthesized through sol-gel method***" The International conference for Nanotechnology industries the leading technology of 21[st] century" King Saud University, Riyadh, Saudi Arabia, 2009.

12. ***"Electrical and magnetic properties of spinel oxide materials***, at international conference on nanotechnology, opportunities and challenges ICON008, King Abdul Aziz University, Jeddah, Saudi Arabia, 2008.

PUBLICATIONS IN PEER REVIEWED INTERNATIONAL JOURNALS

1. ***Application Oriented Selection of Optimal Sintering Temperature from User Perspective: A Study on $K_{0.5}Na_{0.5}NbO_3$ Ceramics,*** Gaurav Vats, Manish Sharma, Rahul Vaish, Vishal Singh Chauhan , Niyaz Ahamad Madhar, Mohammed Shahabuddin, Jafar M. Parakkandy, **Khalid Mujasam Batoo**, FERROELECTRICS, 481 (2015) 64-76.

2. ***Room temperature long range ferromagnetic ordering in $Ni_{0.58}Zn_{0.42}Co_{0.10}Cu_{0.10}Fe_{1.8}O_4$ nano magnetic system***, Sarveena, R. K. Kotnala, **K. M. Batoo**, Jagdish Chand, S. Verma, and M. Singh, *American Institute of Physics* Conference Proceedings 1665 (2015) 050114; doi: 10.1063/1.4917755.

3. ***Mössbauer spectroscopic analysis and temperature dependent electrical study of $Mg_{0.9}Mn_{0.1}Gd_yFe_{2-y}O_4$ nanoferrites,*** Gagan Kumar, Jyoti Shah, R.K. Kotnala, Virender Pratap Singh, Meenakshi Dhiman, Sagar E. Shirsath, M. Shahbuddin, **Khalid M. Batoo**, M. Singh, *Journal of Magnetism and Magnetic Materials, 390 (2015) 50–55.*

4. ***Sol–gel auto combustion processed soft Z-type hexa nanoferrites for microwave antenna miniaturization***, Sucheta Sharma, K.S. Daya, Sunil Sharma, Khalid M. Batoo, M. Singh, *Ceramic International, 1(2015*) *7109-7114.*

5. "***Dielectric and impedance study of polycrystalline*** $Li_{0.35-0.5X}Cd_{0.3}Ni_XFe_{2.35-0.5X}O_4$ ***ferrites synthesized via a citrate-gel auto combustion method***", M. Abdullah Dar, Kowsar Majid, **Khalid Mujasam Batoo**, R.K. Kotnala, Journal of Alloys and Compounds**,** 632 (2015) 307-320

6. ***"Superparamagnetic behaviour and evidence of weakening in super-exchange interactions with the substitution of*** Gd^{3+} ***ions in the Mg-Mn nanoferrite matrix",*** Gagan Kumara, Jyoti Shah, R. K. Kotnala, Virender Pratap Singh, Sarveena, Godawari Garg, Sagar E. Shirsath, **Khalid M. Batoo**, Mahavir Singh, *Material Research Bulletin, 63 (2015) 216-225.*

7. "Remarkable magnetization with ultra-low loss $BaGd_xFe_{12-x}O_{19}$nanohexaferrites for applications up to C-band", Virender Pratap Singh, Gagan Kumar, R. K. Kotnala, Jyoti Shah, Sucheta Sharma, K. S. Daya, **Khalid M. Batoo**, M. Singh, *J. Magnetism and Magnetic Materials, 378 (2015) 478-484.*

8. "***Giant energy harvesting potential in (100)-oriented*** $0.68PbMg_{1/3}Nb_{2/3-0.32}PbTiO_3$ ***with*** $Pb(Zr_{0.3}Ti_{0.7})O_3/PbO_x$ ***buffer layer and (001)-oriented*** $0.67PbMg_{1/3}Nb_{2/3}O_{3-0.33}PbTiO_3$ ***thin films***" Gaurav Vats, Himmat Singh Kushwaha, Rahul Vaish, Niyaz Ahamad Madhar, Mohammed Shahabuddin, Jafar M. Parakkandy, **Khalid Mujasam Batoo***, J. Advanced Dielectrics 11 (2014) 1450029.*

9. "***Effects of High Pressure Using Cold Isostatic Press on the Physical Properties of Nano-SiC-Doped*** MgB_2" M. Shahabuddin Shah, Mohammad Shahabuddin, Jafar M. Parakkandy, Nasser S. Alzayed, Niyaz Ahmad Madhar, **Khalid Mujasam Batoo**, *J. Superconductivity and Novel Magnetism, DOI 10.1007/s10948-014-2687-9.*

10. ***"Structural, dielectric and magnetic properties of nanocrystalline $BaF_{12}O_{19}$hexaferrite processed via sol-gel technique",*** Virender Pratap Singh, Gagan Kumar, Pooja Dhiman, R. K. Kotnala, Jyoti Shah, **Khalid M. Batoo**, M. Singh, *Advanced Material Letters 5 (8) (2014) 447-452.*

11. ***"Self-ignited synthesis of Mg–Gd–Mnnanoferrites and impact of cation distribution on the dielectric properties"*** Gagan Kumar, Jyoti Shah, R. K. Kotnala, Pooja Dhiman, RituRani, Virender Pratap Singh, Godawari Garg, Sagar E. Shirsath, **Khalid M. Batoo**, M. Singh, *Ceramics International 40 (2014) 14509–14516.*

12. ***"Effect of grain size and grain boundary defects on electrical and magnetic properties of Cr doped ZnO nanoparticles"*** RezqNajiAljawfi, F. Rahman, **Khalid M. Batoo**, *J. Molecular Structure, Journal of Molecular Structure 1065-1066 (2014) 199–204.*

13. ***Preparation and ac electrical characterizations of Cd doped SnO2 Nanoparticles***, Feroz Mir, **Khalid M Batoo**, Indrajit Chatterjee, G M Bhat, *Journal of Mater Science: Mater Electron 25 (2014) 1564–1570.*

14. ***Crystal structure, morphological, optical and electrical investigations of Oxypeucedanin micro crystals: an isolated compound from a plant,*** Feroz A. Mir, G.M. Bhat**,** K. Ashokan**, K. M. Batoo,** Javid A. Banday**,** *J. Materials Science: Materials in Electronics, 25 (2014) 431-437.*

15. ***Influence of temperature on the electric, dielectric and Ac conductivity properties of nano-crystalline zinc substituted cobalt ferrite synthesized by solution combustion method,*** Ritu Rani, Gagan Kumar**, Khalid M. Batoo,** M. Singh, *Applied Physics A Material Science Processing, (2013).*

16. ***Extraordinary high dielectric constant, electrical and magnetic properties of Ferrite nanoparticles at room temperature***, **Khalid Mujasam Batoo**, Feroz Ahmed Mir, M.-S. Abd El-sadek, Md. Shahabuddin, Niyaz Ahmed, *Int. J. Nanoparticles, 15 (2013) 1-9.*

17. ***Room temperature ferromagnetism and structural characterization of Fe, Ni co-doped ZnO nanocrystals,*** Pooja Dhiman, **Khalid Mujasam Batoo**, R.K. Kotnala, Jagdish Chand, M. Singh, *Applied Surface science 287 (2013) 287– 292.*

18. ***Electric, dielectric and ac conductivity study of nanocrystalline cobalt substituted Mg-Mn ferrites synthesized through solution combustion techniques***, Gagan Kumar, Sucheta Sharma, R.K. Kotnala, Jyoti Shah, Sagar E. Srisath, **Khalid M Batoo**, M. Singh, *J. Molecular Structure 1051 (2013) 336–344*

19. ***Cation distribution and Mössbauer spectral studies of $Mg_{0.2}Mn_{0.5}Ni_{0.3}In_xFe_{2-x}O_4$ ferrites (x = 0.0, 0.05 and 0.10),*** S. Verma, J. Chand, **K.M. Batoo**, M. Singh, *J. Alloys and Compounds, 565 (2013) 148-153.*

20. **Synthesis and characterization of novel Fe@ZnO nanosystem,** Pooja Dhimana, Jagdish Chand, Amit Kumar, R.K. Kotnala, **K.M. Batoo**, M. Singh. *J. Alloys and Compounds 578 (2013) 235–241.*

21. ***Room temperature ferroelectric and magnetic properties of Nd doped $Ba_{4-x}FeTi_3O_{12}$ nanoparticles,*** **Khalid Mujasam Batoo**, Mahavir Singh, Ritu Rani, Joselito P. Labis, *J. Alloys and Compounds, 564 (2013) 162-165.*

22. ***Electric and dielectric study of zinc substituted cobalt nanoferrites prepared by solution combustion method,*** Ritu Rani, Gagan Kumar, **Khalid Mujasam Batoo**, M. Sing, *American Journal of Nanomaterials, 1 (2013) 9-12.*

23. ***Magnetic study of nano-crystalline cobalt substituted Mg-Mn ferrites processed via solution combustion technique,*** Gagan Kumar, Ritu Rani, Vijayender Singh, Sucheta Sharma, Khalid M. Batoo, M. Singh, *Advanced Material Letters4 (2013).*

24. ***Electrical and magnetic transport properties of Ni-Cu-Mg ferrite nanoparticles prepared by sol-gel method"*** **Khalid Mujasam Batoo**, M.-S. Abd El-sadek, *Journal of Alloys and Compounds, 566 (2013) 112–119*

25. ***Structural, magnetic and Mössbauer spectral studies of aluminum substituted Mg–Mn–Ni ferrites ($Mg_{0.2}Mn_{0.5}Ni_{0.3}Al_yFe_{2-y}O_4$),*** SatishVerma, Jagdish Chand, **Khalid Mujasam Batoo**, M. Singh, *Journal of Alloys and Compounds 551 (2013) 715–721.*

26. ***"Electric and dielectric study of cobalt substituted Mg–Mnnanoferrites synthesized by solution combustion technique"*** Gagan Kumar, Ritu Rani, Sucheta Sharma, **Khalid M. Batoo**, M. Singh, *Ceramics International, 39 (2013) 4813-4818.*

27. ***Surface defect mediated magnetic interactions and ferromagnetism in Cr/Co Co-doped ZnO nanoparticles,*** Rezq Naji Aljawfi, F. Rahman, **Khalid Mujasam Batoo**, *J. Magnetism and Magnetic Materials, 332 (2013) 130–136.*

28. ***Fe doped ZnO nanoparticles synthesized by solution combustion method***, Pooja Dhiman, **Khalid Mujasam Batoo**, R.K. Kotnala, M. Singh, *Micro & Nano Letters7 (2012) 133-1335.*

29. ***Ferroelectric and magnetic properties of Nd-doped $Bi_{4-x}FeTi_3O_{12}$ nanoparticles prepared through the egg-white method,*** **Khalid Mujasam Batoo**, Joselito Puzan Labis, Ritu Sharma, Mahavir Singh, *Nanoscale Research Letters,7 (2012) 511.*

30. ***Low temperature fired Ni-Cu-Zn ferrite nanoparticles through auto-Combustion method for Multilayer Chip Inductor applications,*** **Khalid Mujasam Batoo**, M. Shahnawaze Ansari, *Nanoscale Research Letters, 7, (2012) 112.*

31. ***Structural and dielectric properties of Ni-Cu-Mg Ferrite Nanoparticles,*** M. Shahnawaz Ansari, **Khalid Mujasam Batoo**, Sumaira Mehraj, *American Institute of Physics Conference Proceedings **1447**, 375 (2012).*

32. ***Microstructural and Mössbauer properties of low temperature synthesized Ni-Cd-Al ferrite nanoparticles,*** **Khalid Mujasam Batoo,** *Nanoscale Research Letters, 6 (2011) 499.*

33. ***Structural and electrical properties of Cu doped $NiFe_2O_4$ nanoparticles prepared through modified citrate gel method,*** **Khalid Mujasam Batoo**, *Journal of Physics and Chemistry of Solids 72 (2011) 1400-1407.*

34. ***Ferrimagnetic ordering of Ti^{4+} doped $MnFe_{2-2x}Ti_xO_4$ ($0 \leq x \leq 0.5$) ferrites at room temperature,*** **Khalid Mujasam Batoo,** Shalendra Kumar, M. Shahnawaz Ansari, *Science of Advanced Materials,* **Vol. 3** (2011) 1-7.

35. ***Influence of Ti^{4+}doping on dc conductivity of Mn Ferrites,*** **Khalid Mujasam Batoo,** M. Shahnawaz Ansari, *American Institute of Physics Conference Proceedings,* 1349 (2011) 1021-1022; dio:10.1063/1.3606208.

36. ***Impedance spectroscopy of $Mn_{1+x}Fe_{2-2x}Ti_xO_4$ ferrites***, **Khalid Mujasam Batoo**, M. Shahnawaz Ansari, *American Institute of Physics Conference Proceedings* ***1349*** *(2011) 1021-1022.*

37. ***Influence of Al^{3+} doping on the structural and electrical properties of nanocrystalline $Ni_{0.7}Mg_{0.3}Al_xFe_{2-x}O_4$ ferrites***, *Nanotechnology and Nanoscience* 1 (2010) 1-3.

38. ***Mössbauer spectra of $MnFe_{2-2x}Al_{2x}O_4$ ($0 \leq x \leq 0.4$) ferrites,*** **Batoo K M**, Kumar S, Prakash R, Alimuddin, Song J, Chung H, Jeong H, Koo B H, Lee C G, *J. Central South University Technology,****17*** *(2010) 1129−1132.*

39. ***Impedance spectroscopy study on $Mn_{1+x}Fe_{2-2x}Ti_xO_4$ ($0 \leq x \leq 0.5$) ferrites,*** Kumar S, **Batoo K M**, Prakash R, Choi H K, Koo B H, Song J I, Chung H, Jeong H, Lee C G, *J. Central South University Technology*, **17** (2010) 1133−1138.

40. ***Study of dielectric and impedance properties of Mn ferrites,*** **Khalid Mujasam Batoo,** *Physica B. Condensed Matter* **406** (2010) 382-387**.**

41. ***Study of structural and dielectric properties of Ni-Mg Ferrite Nanoparticles***, Razia Nongjia, **Khalid Mujasam Batoo**, Shakeel Khan, *American International Physics proceeding*, **1313** (2010) 346-348**.**

42. ***Electronic Structure and Magnetic Properties of the*** $Ni_{0.2}Cd_{0.3}Fe_{2.5-x}Al_xO_4$ ***(0 ≤ x ≤ 0.4) Ferrite Nanoparticles,*** Shalendra Kumar, **Khalid Mujasam Batoo**, S. Gautam, B. H. Koo, Alimuddin, K. H. Chae, Chan Gyu Lee, *Journal of Nanoscience and Nanotechnology* **10** (2010) 1-5.

43. ***Synthesis and characterization of nano-sized pure and Al-doped lithium ferrite having high value of dielectric constant,*** M. Abdullah Dar, **Khalid Mujasam Batoo**, Vivek Verma, W.A. Siddiqui, R.K. Kotnala, *Journal of Alloys and Compounds* **493** (2010) 553–560.

44. ***Synthesis, electrical properties of Al doped Ni-Cd nano ferrites***, **Khalid Mujasam Batoo**, Shalendra Kumar, Alimuddin*" International Journal of Nanoparticles* **2** (2009) 437-443.

45. ***Study of dielectric and ac impedance properties of Ti doped Mn ferrites, Khalid Mujasam Batoo****, Shalendra Kumar, Chan Gyu Lee, Alimuddin, Current Applied Physics* **9** (2009) 1397-1406.

46. ***Influence of Al doping on electrical properties of Ni-Cd nano ferrites***, ***Khalid Mujasam Batoo***, Shalendra Kumar, Chan Gyu Lee, Alimuddin, *Current Applied Physics **9** (2009) 826-832.*

47. ***Study of ac impedance of Al doped $MnFe_{2-x}Al_xO_4$ ferrites***, ***Khalid Mujasam Batoo***, Shalendra Kumar, Chan Gyu Lee, Alimuddin, *Journal of Alloys Compounds* ***480*** *(2009) 596-602.*

48. ***Influence of the doping of Ti^{4+} ions on the electrical and magnetic properties of $Mn_{1+x}Fe_{2-2x}Ti_xO_4$ ferrite***, A.M.M. Farea, Shalendra Kumar, ***Khalid Mujasam Batoo***, Ali Yousef, Chan Gyu Lee, Alimuddin, *Journal of Alloys Compounds* ***469*** *(2009) 451–457.*

49. ***Finite size effect and influence of temperature on electrical properties of nanocrystalline Ni-Cd ferrites,*** ***Khalid Mujasam Batoo***, Shalendra Kumar, Chan Gyu Lee, Alimuddin*", Current Applied Physics* ***9*** *(2009) 1072–1078.*

50. ***Structural and electrical properties of $Co_{0.5}Cd_xFe_{2.5-x}O_4$ ferrites***, A.M.M. Farea, Shalendra Kumar, ***Khalid Mujasam Batoo***, Ali Yousef, Chan Gyu Lee, Alimuddin, *Journal of Alloys and Compounds****464*** *(2008) 361–369.*

51. ***Influence of frequency, temperature and composition on electrical properties of polycrystalline $Co_{0.5}Cd_xFe_0O_4$ ferrites,*** A.M.M.Farea, Shalendra Kumar, ***Khalid Mujasam Batoo***, Ali Yousef, Alimuddin, *Physica B: Condensed Matter****403*** *(2008) 684-701.*

52. ***Mossbauer Studies of $Co_{0.5}Cd_xFe_{2.5-x}O_4$ ($0.0 \leq x \leq 0.5$) ferrite***, Shalendra Kumar, A.M.M. Farea, ***Khalid Mujasam Batoo***, Chan Gyu Lee, Ali Yousef, Alimuddin, *Physica B: Condensed Matter* **403** (2008) 3604– 3607.

Papers presented Peer Reviewed International/National Conferences/Workshops/ Symposium.

1. "***Tuning of multiferroic properties in ferroelectric materials for the application of read access memory devices****"*, National Conference on Materials and their energy

applications, Department of Physics, S.S. Jain Subodh P.G. College, Ram Bagh, Jaipur, Dec. 22nd-24th, 2014, India

2. "***Structural and magnetic properties of sol-gel auto combustion synthesized*** $Ni_{0.58}Zn_{0.42}Co_{0.10}Cu_{0.10}Fe_{1.8}O_4$ ***nanoferrites***", Surveena, Pooja Dhiman, K.M. Batoo, Jhagdish Chand, SatishVerma, Arun Kumar, M. Singh, International conference on electron microscopy and XXXV annual meeting of electron microscope society of India (EMSI) July 9-11, 2014, University of Delhi, India.

3. "***Defect modified properties of Fe doped ZnONanosystem***" Pooja Dhiman, **Khalid Mujasam Batoo**, Jhagdish Chand, Amit Kumar, Surveena, M. Singh, International conference on electron microscopy and XXXV annual meeting of electron microscope society of India (EMSI) July 9-11, 2014, University of Delhi, India.

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