

# CURRICULUM VITAE

**Prof. Dr. Muhammad Shahid Rafique**  
**(Professor of Physics)**

**DEAN**

**Faculty of Natural Sciences, Humanities & Islamic Studies**



- Dr. Razi-ud-din Siddiqui Gold Medal in Physics, 2010 by the Pakistan Academy of Science, 2010
- Research Productivity Award by the Ministry of Science and Technology, by the Govt. of Pakistan, 2010, 2011, 2012 & 2013.
- *Life Member* Pakistan Physical Society
- *Life Member*, Pakistan Institute of Physics

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## I. **PERSONAL:**

Father's Name : Muhammad Rafique  
Date & Place of Birth : 29<sup>th</sup> December, 1970 (Faisalabad)  
CNIC Number : 35202-7654036-3  
Domicile : Punjab  
Designation : **Professor**

Present Posting/ : **(i) DEAN**  
Faculty of Natural Science, humanities & Islamic Studies, University of Engineering & Technology, Lahore  
**(ii) DEAN\***  
Faculty of Architecture and Planning, University of Engineering & Technology, Lahore (as looking after the office of Dean Architecture and Planning)  
**(iii) DIRECTOR**  
Laser & Optronics Centre, UET, Lahore  
**(iv) CONVENER**  
Austerity committee, UET, Lahore  
**(v) CHAIRMAN**  
Benevolent Fund Committee UET, Lahore

Residential Address : P-114, Staff Colony,  
University of Engineering & Technology, Lahore – 54890

## II. **ACADEMIC CAREER:**

<b>Degree/ Certificate</b>	<b>Name of Institution</b>	<b>Year</b>	<b>Division</b>	<b>Major Subjects</b>
Post Doctoral	Vienna University of Technology Austria	2008	NA	Physics
Ph. D	Nanyang Technological University Singapore	2000	NA	Physics
M. Phil	Quaid-i-Azam University (Islamabad)	1997	1 <sup>st</sup>	Physics
M.Sc.	Govt. College Lahore (University of the Punjab)	1994	1 <sup>st</sup>	Physics
B.Sc.	Govt. College Faisalabad (University of the Punjab)	1990	1 <sup>st</sup>	Physics, Double Maths.
F. Sc. Pre-Engg.	Govt. College Faisalabad (BISE, Sargodha)	1988	1 <sup>st</sup>	Physics, Chemistry, Maths.
Matric	Govt. M.C. High School Okara (BISE, Lahore)	1986	1 <sup>st</sup>	Physics, Chemistry, Maths.

## III. **SERVICE RECORD:**

(i) Post – graduate Teaching & Research more than **13** years

<b>Sr. No</b>	<b>Designation &amp; Pay Scale</b>	<b>Period</b>		<b>Institution</b>	<b>Job Description</b>
		From	To		
1.	(i) <b>Dean</b>	24-11-2018	To date	Faculty of Natural Sciences, Humanities & Islamic Studies UET, Lahore	Administrative, Academic, Financial Management, Teaching & Research (post- graduate& undergraduate)
	(ii) <b>Dean</b>	18-06-2015	17-06-2018	Faculty of Natural Sciences, Humanities & Islamic Studies UET, Lahore	Administrative, Academic, Financial Management, Teaching & Research (post- graduate& undergraduate)
	(iii) <b>Dean*</b> (as looking after the office of Dean)	01-01-2019	To date	Faculty of Architecture & Planning	Administrative, Academic, Financial Management, Teaching & Research (post- graduate& undergraduate)

	(iv) <b>Director</b>	25-07-2011	To date	ii. Laser & Optronics Centre	
	(v) <b>Director</b>	6-05-2016	14-01-2019	Institute of Business and Management (IB&M)	
2.	(i) <b>Chairman</b>	25-07-2011	17-06-2015	i. Physics Department UET, Lahore	Administrative, Academic, Financial Management, Teaching & Research (post- graduate& undergraduate)
3.	Professor [BS 21]	31-12-2011	To date	Physics Department UET, Lahore	Teaching, Research and Academic Administration,
4.	Associate Professor [BS – 20]	05-06-2006	30-12-2011	Physics Department UET, Lahore	Teaching, Research and Academic Administration,
5.	Assistant Professor [BS – 18]	02-01-2003	04-06-2006	Physics Department UET, Lahore	Teaching, Research and Academic Administration,
6.	Lecturer [BS – 17]	30-11-2001	01-01-2003	Physics Department UET, Lahore	Teaching, Research and Academic Administration,
7.	Scientist	15-12-2000	15-02-2001	Plasma Physics Group, G.C. Lahore	Planning and Development of Plasma Focus
8.	Research Associate	May 2000	Dec, 2000	Nanyang Technological University Republic of Singapore	Doctoral Research

#### IV. HONOURS/AWARDS:

- **Dr. Razi-ud-din Siddiqui Gold Medal in Physics, 2010 by the Pakistan Academy of Science, 2010**
- **Research Productivity Award 2010, 2011 and 2013 by Govt. of Pakistan, Ministry of Science and Technology, Pakistan Council for Science and Technology, Islamabad.**
- **Approved Ph.D. Supervisor by Higher Education Commission [HEC] Islamabad vide letter No. 1-13/PhD-Sup/ITC/HEC/1083 dated 19-07-2005**

- **Visiting Scientist Vienna University of Technology Vienna, Austria**, since 2008 (each year for one month).

#### V. **ADMINISTRATIVE, FINANCIAL & HIGHER EDUCATION MANAGEMENT EXPERIENCE**

<b>Dean</b>	Faculty of Natural Sciences, Humanities & Islamic Studies, , University of Engineering & Technology, Lahore, Pakistan	19 June, 2015 to 18 June 2018 & 24-11-2018 to date
<b>Director</b>	Laser and Optronics Centre	25 July 2011, To Date
<b>Director</b>	Institute of Business & Management, UET, Lahore, Pakistan	7-05-2016 To 18.06-2018
<b>Chairman</b>	Department of Physics, University of Engineering & Technology, Lahore	25 July 2011 to 21 <sup>st</sup> June, 2015
<b>Senior Warden</b>	University of Engineering & Technology, Lahore	19 February, 2014 To 15 Sep. 2015
<b>Advisor for Foreign Students</b>	University of Engineering & Technology, Lahore	06-03-2014 To March,2015
<b>Incharge X -ray Diffractometer Laboratory</b>	Research Centre, University of Engineering & Technology, Lahore	25 July 2011 to 22-06-2015

#### VI. **ADMINISTRATIVE ASSIGNMENTS AT UNIVERSITIES / HEC / OTHER ORGANIZATIONS etc.:**

1. **Convener** Austerity committee, UET, Lahore
2. **Chairman** Benevolent Fund Committee UET, Lahore
3. **Member** Institutional Scholarship Award Committee (ISAC) for Pak USAID Merit & HEC Need based scholarship program phase – II since 14-07-2014
4. **Member** HEC need based scholarship to the undergraduate & postgraduate students for the year 2013 by University of Engineering & Technology, Lahore since 25-11-2013
5. **Member** Technical Committee for technically evaluating the PV lab equipment for Centre for Energy Research and Development (CERAD) KSK Campus, UET, Lahore from 07-04-2014
6. **Member** Board of Studies Lahore College for Women University, Lahore from September 2012 to date
7. **Member** Board of Faculty National Textile University, Faisalabad from 05-04-2013 to date
8. **Member** Board of studies of Physics, University of Gujrat, Gujrat
9. **Member** Boards of study of Govt college for woman University, Sialkot

10. **Member** of the ACADEMIC COUNCIL UET, Lahore
11. **Member** Board of Faculty of Electrical Engineering, UET, Lahore
12. **Member** Senate UET, Lahore since 25-07-2011
13. **Member** Advanced Studies and Research Board UET, Lahore
14. **Senior Warden** of all the hostels UET, Lahore, Pakistan (Feb 2014 to Sep 2015)
15. **Member** HEC Curriculum Revision Committee
16. **Member** Central Purchase Committee of Centre for Energy Research & Development at UET, Lahore from 10-4-2013
17. **Secretary** Postgraduate Research Committee of the Department (August 2002- October 2007)
18. **Director**, Postgraduate Studies (Department) (August 2002- October 2007)

## VII. NATIONAL/INTERNATIONAL CONFERENCES ORGANIZED/PARTICIPATED

### **Presentation:**

Participated in **48** International & National Conferences Symposia / Seminars / Workshops held in Holland, Hungary, Canada, Singapore, Bulgaria, Austria, Egypt, England, Norway and Pakistan.

### **International**

1. **26<sup>th</sup> European Physical Society (EPS), Maastricht, the Netherlands (international)**  
*One paper presented in 26<sup>th</sup> European Physical Society (EPS) Conference on plasma physics held in Maastricht, the Netherlands, June 1999.*
2. **27<sup>th</sup> European Physical Society (EPS), Budapest, Hungary (international)**  
*Two papers presented in the 27<sup>th</sup> European Physical Society (EPS) Conference on plasma physics held in Budapest, Hungary, June 2000.*
3. **International Symposium on Plasma Focus Modeling, Singapore (international)**  
**Attended lectures on Plasma Focus Modeling delivered by Prof. Lee Sing Dean, Natural Sciences, NIE/NTU, Singapore, July 2000**
4. **10<sup>th</sup> International Congress on Plasma Physics, Quebec City, Canada (international)**  
*Six papers Presented in the 10<sup>th</sup> International congress on plasma physics held in Quebec City, Canada, October 2000.*
5. **Regional College on Plasma Physics, Islamabad, Pakistan (national)**  
*A Seminar delivered in the Regional College on Plasma Physics, held in Islamabad, Pakistan in Jan-Feb 2001.*
6. **27 International Nathia Gali summer College, Nathia Gali, Pakistan (International)**  
*A paper was presented in the college held in 24<sup>th</sup> June-6<sup>th</sup> July 2002.*
7. **First International Conference Frontier of advance Engineering Materials, Held in Sep 20-22, 2004, Lahore, Pakistan ((International)**
8. **PIP international Conference, 2006 held at University of Engineering and Technology, Lahore, Pakistan (International)**
  - a. **Member Organizing Committee**
  - b. **Member Technical Committee**

- presentation Title “Development of thin film employing pulsed laser deposition technique”*
9. **CIIT-ISESCO International School on Surfaces, Thin Films, Nanostructures and Applications** on October 27-31, 2006 (International)
  10. **Second International Conference on Frontiers Advanced Engineering Materials (FAEM,06), 2006, held in Lahore**
  11. *Oral presentation “SEM and XRD analysis of laser irradiated Zinc”*
  12. **Plasma Source Laboratory, Nanyang Technological University, Singapore, 2007.** (International) Presentation on” Laser and Plasma Research Group at Physics Department, UET, Lahore, Pakistan”
  13. **Fifteenth International School on Quantum Electronics, Laser Physics and Applications, Burgos, Bulgaria, 2008** (*International*)  
*Presentation on “Z-scan measurement of two photon absorption for ultra short laser radiation”*
  14. **PIP international Conference, 2009 held at University of Engineering and Technology, Lahore, Pakistan** (International)
    - a. Member Organizing Committee
    - b. Member Technical Committee
    - c. Member Publication Committee*Presentation Title “Surface modifications of material by Laser produced Hard X-rays”*
  15. **International Workshop on Plasma Diagnostics and Applications (IWPDA), Singapore, July, 2009** (*International*) **INVITED TALK** : *Plume Evolution Correlated with the Radiation Emission from a Deuterium Plasma Focus*
  16. **4<sup>th</sup> International Workshop on Ultra Fast Lasers Technology & Application** 8<sup>th</sup> – 12<sup>th</sup> April 2012 at IC – SAS, NILES, Cairo University, Egypt  
**INVITED TALK:** Nano Structures growth by femtosecond Laser Matter Interaction
  17. **INVITED TALK:** Research Facilities in the Physics Department University of Engineering & Technology, Lahore – Pakistan on 1-10-2012 at University College Vest fold Norway.
  18. **KEYNOTE SPEAKER at** International Laser Technology & Optics Symposium (LATOS)” to be held in UTM, Malaysia on 12-15 Oct, 2015
  19. 11 th Science , Technology and Innovation Management Training course for Researchers in OIC countries held in Kuala Lumpur, Malaysia, 4-13 OCT, 2015.
  20. International conference on solid state Physics, 2015 .  
**Invited talk:** Growth of metallic carbide nano structures employing laser induced plasma as an ion source
  21. **Key note speaker** “Nano diamonds (NDs) and Ag-NDs for water purification” International Conference on Frontiers in advanced Engineering materials (FAEM 2018)” 20<sup>th</sup> Feb, 2018, PCSIR, Lahore, Pakistan
  22. International Nathiagali Summer College  
**Invited Speaker** “Laser as a tool to fabricate Nano structures” 12 -17 July, 2019, NCP, Islamabad, Pakistan

## **National**

1. **9<sup>th</sup> National Symposium on frontiers in Physics**, G. C. University, Lahore (national)  
*A lecture delivered on the ion emission from Laser induced Plasma Jan. 2003.*  
*Paper Presented Entitled "Laser Irradiation Effects on Materials"*
2. **10<sup>th</sup> National Symposium on Frontier in Physics** Held in Jan 2005 GCU Lahore (national)  
**INVITED TALK** Entitled "X-ray emission from Graphite Plasma"
3. **Conference on Nano –Science and Technology in Pakistan** held in June 13-14, Islamabad, 2005. (National)  
**INVITED TALK** entitled "Growth of nano-grains on silicon substrate employing Pulsed Laser Deposition Technique"
4. **One day workshop on Plasma Technology** at Quaid-i-Azam University, Islamabad Pakistan, 27<sup>th</sup> August 2005 (national)  
**INVITED TALK** entitled "Plasma Ion irradiation effects on PVC"
5. **Conference on accelerator, radiation and lasers** GC University, Lahore, Pakistan, Dec. 2009. (National)
6. **Second Workshop on characterization of nano particles and nano structures**  
**GC University, Lahore, Pakistan, 13 April 2010.**
7. **One day National meeting on nano technology research in Pakistan**, 3<sup>rd</sup> August, 2010, CSSP, Punjab University, Lahore, Pakistan (National)  
**CONTRIBUTED TALK:** *Laser induced plasma as an X-ray source for material modification*
8. **One day Workshop on non Ferrous Alloys, CASP, GCU, Lahore, 13<sup>th</sup> October, 2010** (National)
9. **2<sup>nd</sup> National Conference on Radiation and particles**, GCU, Lahore, Oct 26-28, 2010. (National)  
**CONTRIBUTED TALK:** *Impact of Laser induced X-rays on metals and thin films*
10. **12<sup>th</sup> National Symposium on Frontiers in Physics**, G. C. University, Lahore, Feb., 2-4, 2011. (National)  
**CONTRIBUTORY TALK:** *Laser induced periodic surface structures on single crystal Si*
11. **One day workshop on Laser ablation and its applications**  
**INVITED TALK:** *Lasers and its applications*
12. **International Spring School (ISS) held on 05 – 09<sup>th</sup> March 2012, at NCP Islamabad, Pakistan**  
**INVITED TALK:** *Growth of Magnetic Thin Film by PLD*
13. **One day workshop on Plasma Physics**  
*10<sup>th</sup> March 2012 at NCP Islamabad*
14. **One day workshop on nano materials and their application**  
*19<sup>th</sup> April 2012 at Lahore College for Women University, Lahore*

- INVITED TALK** “Growth of nano hillocks by fs laser irradiation  
**Keynote Address:** Investigation of non-thermal & thermal processes in materials by ultra shot laser irradiation
15. **Seminar on “Photonics”**  
 12<sup>th</sup> January 2012 at Physics Department, (Laser and Optronics Centre)  
 University of Engineering & Technology, Lahore
  16. **One day workshop on Lasers and Nanotechnology**  
 14<sup>th</sup> June 2012 at Physics Department, University of Engineering & Technology,  
 Lahore
  17. **One day colloquium on Physics**  
 15<sup>th</sup> November 2012 at COMSATS Institute of Information Technology, Lahore
  18. **One day seminar on “Nuclear and Radiation Safety”** arranged by Physics  
 Department, UET, Lahore at Laser and Optronics Centre in collaboration with  
 Pakistan Nuclear Regularity Authority, Islamabad held on 19<sup>th</sup> November, 2012
  19. **One day Symposium and Poster Presentation in Material Science**  
 20<sup>th</sup> November 2012 at Physics Department, Lahore College for Women University,  
 Lahore
  20. **One day workshop on Laser Interaction with matter**  
 24<sup>th</sup> April 2013 at S-07 Hall University of Gujrat  
**INVITED TALK** “Table top laser driven ion accelerator”
  21. **One day**  
 22 Oct 2014 at F.C. College University, Lahore  
**INVITED TALK Laser induced Plasma as an ion source**
  22. **One day conference on Physic colloquium**  
 12<sup>th</sup> November 2014 Comsats Lahore  
**INVITED TALK** Solar driven hydrogen for water using an artificial leaf
  23. **Physics Colloquium in Science college, Lahore, Pakistan**
  24. **Invited Talk** on “laser induced Plasma as an ion source” “one day Symposium  
 on Frontiers in Physics “ GCU, Lahore October 2016.
  25. **Promotion of Science and Technology in Pakistan, PAKISTAN ATOMIC  
 ENERGY COMMISSION**  
**PINSTECH, P.O. Box No. Nilore, Islamabad, 14-15 November 2016**
  26. **Ist national symposium on laser matter interaction, 13-14 September,  
 2017, NCP Islamabad**  
**Invited talk “ Thermophysical properties of nano fluids prepared by Laser  
 ablation”**
  27. **Invited Talk on “ laser induced nano particle growth” in 5<sup>th</sup> Nov.2017, NCP,  
 Islamabad**
  28. **Ist national symposium on laser matter interaction, 17-18 September,  
 2018, NCP Islamabad**  
**Invited talk “ Graphene growth by pulsed laser deposition technique ”**

## **VIII.ORGINIZATIONS: CAPIBILITY AND EXPERIENCE OF RESOURCE MOBILIZATION**

1. **Conference Chair** “International Conference Management and Business Technologies” Institute of Business nad Management, UET, Lahore, Pakistan, Dec. 2018.



2. **Member** Organizing committee, National Symposium on Laser matter Interaction, NCP, Pakistan, September 2018.
3. **Member** Organizing committee, National Symposium on Laser matter Interaction, NCP, Pakistan, September 2017.
4. **Symposium Chair** “Symposium on energy and nano materials” jointly organized by Physics Department and Chemical engineering Department, 18 th April 2017.
5. **Conference Chair** “ International Conference Management and Business Technologies” Institute of Business nad Management, UET, Lahore, Pakistan, March 2017
6. **Member** organizing committee “one day Symposium on Frontiers in Physics “ GCU, Lahore October 2016.
7. **Member** Organizing Committee International Conference on Solid State Physics (ICSSP 2016) held at University of Punjab, Lahore from December 2016.
8. **Member International Advisory Committee** of “International Laser Technology & Optics Symposium (LATOS)” to be held in UTM, Malaysia on 12-15 Oct, 2015
9. **Patron** of One Day Symposium on Nano Technology, held at UET Lahore, 21 April, 2015
10. **Member** Organizing Committee International Conference on Solid State Physics (ICSSP 2013) held at University of Punjab, Lahore from 1 – 6 December 2013.
11. **Member** International Scientific Committee of International Conference on Plasma Science and Applications (ICPSA) Nanyang Technological University Singapore from 4 – 6 December 2013
12. **Convener/Chairman** Organizing Committee of seminar on “**Nuclear and Radiation Safety**” arranged by Physics Department, UET, Lahore at Laser and Optronics Centre in collaboration with Pakistan Nuclear Regularity Authority Islamabad, held on 19<sup>th</sup> November, 2012
13. **Convener/Chairman** Organizing Committee of **One day workshop on Lasers and Nanotechnology** held on 14-06-2012 in the Physics Department **UET, Lahore**
14. **Convener/Chairman** Organizing Committee of seminar on “**Photonics**” arranged by Physics Department, UET, Lahore at Laser and Optronics Centre held on 12-01-2012
15. **Member** Organizing Committee Pakistan Institute of Physics Conference - 2011 in collaboration with Physics Department **UET, Lahore** from **28-03-2011 to 30-03-2011**
16. **Member** Organization Committee of Conference on accelerator, radiation and lasers **GC University, Lahore, Pakistan, Dec. 2009.**
17. **Member** Organization Committee of 2nd National Conference on Radiation and particles, **GCU, Lahore, Oct 26-28, 2010. )**
18. **Member** Organizing Committee Pakistan Institute of Physics International Conference in collaboration with Physics Department **UET, Lahore** from **23-02-2009 to 26-02-2009**
19. **Member** Organizing Committee Pakistan Institute of Physics International Conference in collaboration with Physics Department **UET, Lahore** from **13-03-2006 to 16-03-2006.**

## IX. RESEARCH FIELDS/ RESEARCH EXPERTISE/ RESEARCH PROJECTS:

- Fabrication of nano structure using Microplasma
- Functionalized nano structures
- Nano particle generation in liquid environment by (fs) femtosecond Laser
- Femto-second laser matter interaction
- Thin film preparation using Pulsed laser Deposition (PLD) Technique
- Real time image analysis of Plasma Phenomena at Pico and nano second scale (capture and analysis)
- Surface modifications of materials by X-rays emitted from laser plasmas
- Thomson spectroscopy of the ion emission from Plasmas.
- Fundamental research on radiation (Soft X-rays, Hard X-ray, Neutrons) and particle (Deuterons and Electrons) emission from Plasma Focus Devices.
- Correlations of the electrical diagnostics with the dynamics of the discharge and radiation emission from Plasma Focus Devices.
- Applications of Soft X-rays, hard X-rays emission (spatial and temporal resolution) from Plasma Focus Devices
- Development of dense Plasma Focus as an X-ray source for microelectronics lithography and micro machining
- **Laser Physics:**
  - Femto and nano second laser matter interaction.
  - Laser induced generation of nano particles from colloidal solution
  - Laser induced plasma, technology and applications
  - Design and Fabrication of Lasers (CW Nd: YAG, He-Ne, N<sub>2</sub>, N<sub>2</sub> Dye laser, TEA CO<sub>2</sub>)
- **Vacuum Technology:**
  - Design and engineering of high vacuum systems
- **Radiations Physics:**
  - Pulsed Neutron and X-ray sources and applications.
- **Scanning Electron Microscope (SEM)**
  - Operation of SEM and analysis of the images
- **Atomic Force Microscopy (AFM)**
  - Operation and Analysis
- **Plasma Focus Devices:**
  - Engineering and designing of plasma sources
  - Dense Plasma Focus (DPF) Devices (160 kA, 270 kA and 0.5 MA), building, assembly and fundamental research and application.

## POST – GRADUATE RESEARCH PROJECTS DESIGNED AND SUPERVISED

### Ph.D. SUPERVISION

#### **(COMPLETED)**

1. **Laser induced Plasma as an X-ray source for material modification**  
Mr. Hamid Latif,  
Registration # 2005-PHD-PHY-03 Completed on 12-04-2010
2. **Growth of nano structured thin films of magnetic materials by PLD technique**  
Ms Safia Anjum,  
Registration # 2006-PHD-PHY-01, Completed on 31-12-10
3. **Growth and Characterization of Nano Structured Composite Carbon films**  
Arslan Usman  
Registration # 2007-PHD-PHY-02, Completed on 08-10-2013
4. **Investigation on Thermophysical and optical properties of nanofluids**  
Muhammad Rafique  
Registration # 2011-PHD-PHY-07 completed on 19-06-2017
5. **Synthesis and Characterization of Perovskite Oxide Thin Films**  
Shariqa Hassan Butt  
Registration # 2011-PHD-PHY-10 completed on 29-07-2017
6. **Fabrication and Characterization of Nano-Graphene Structures Deposited by Pulsed Laser Ablation of Graphite**  
**Umber Kalsoom**  
Registration # 2011-PHD-PHY-01 completed on 7-06-2018
7. **Synthesis of Nanodiamonds for Nanocomposite Applications**  
Saman Iqbal  
Registration # 2013-PHD-PHY-01 completed on 7-06-2018
8. **Synthesis and Characterization of Polymeric and Ceramic Membranes for Multiple Purification Technologies**  
Amina Afzal  
Registration # 2013-PHD-PHY-04
9. **Femto-Second Laser Induced Non-Linear Material Response Measurements Employing Z-scan Technique**  
Rabia Ahmad  
Registration # 2013-PHD-PHY-02

### PH.D. CO- SUPERVISION (COMPLETED)

1. Effect of ion beam implantation on morphological, electrical and optical properties of polymer  
Miss Shafaq Arif  
Reg# 11PhD/LCWU/20308 Completed on 3-05-2017
2. Modification in structural, optical and electrical properties of polymer by metal ion implantation  
Miss Riffat Sagheer  
Reg# 11PhD/LCWU/20250 Completed on 16-09-2017

### Ph.D. (IN PROGRESS)

1. **Fabrication and characterization of cost-effective and efficient solid-state dye-sensitized solar cells**

Azhar Abbas Zaidi  
Registration # 2011-PHD-PHY-05

2.

### **M. PHIL COMPLETED**

1. **Nano structuring of CR-39 by IR and UV laser irradiation**  
Saliha Latif  
2009-M.Phil-App.Phy-16
2. **X-ray induced effects on thin polymeric films**  
Saman Iqbal  
2009-M.Phil-App.Phy-19
3. **Growth of magnetic thin films in the presence of external magnetic field**  
M. Adnan Sajid  
2008-M.Phil-App.Phy-21
4. **Phase contrast imaging by X-rays induced from laser plasma**  
Muhammad Rafique  
2008-M.Phil-App.Phy-25 (2008-2010)
5. **Laser induced X-ray effects on thin polymeric films deposited by PLD**  
Shahbaz Majeed  
2008-M.Phil-App.Phy-10
6. **Laser Propagation through polymeric thin films**  
Nazia Sarwar  
2008-M. Phil-App-Phy-11 (2008-2010)
7. **Contribution of electrons to X-ray emission from laser plasma**  
Saima Khalid  
2004-M.Phil-Phy-13 (2004-2006)
8. **The growth and modification of materials by ion surface processing**  
Arslan Usman  
2004-M.Phil-Phy-19 (2004-2006)
9. **Plasma ion implantation for electronic material**  
Masood Khalid  
2004-M.Phil-Phy-20 (2004-2006)
10. **Laser irradiation effects on deposited Thin film**  
Shafaq Arif  
2004-M.Phil-Phy-06 (2004-2006)
11. **Luminescence behavior of laser irradiated porous silicon**  
Riffat Rasheed  
2004-M. Phil-Phy-04 (2004-2006)
12. **Electrical and optical properties of Ge implanted SiC**  
Nadeem Tahir  
2004-M. Phil-Phy-04 (2004-2006)
13. **Study of Ion Irradiation on the Polymers**  
Iram Matloob  
2002-M.Phil-Phy-13 (2002-2005)
14. **Influence of westerly waves on the weather of Pakistan during monsoon season by making use of weather satellites/images and synoptic surface/upper air maps**  
Waseem Aftab  
2001-M.Phil-Phy-06
15. **Measurement of Charged state of Silicon Ion in Laser Produced Plasma**  
Nausheen Anjum

- 2002-M.Phil-Phy-06 (2002-2006)
16. **Effect of External Magnetic Field on Plasma Plume Dynamics**  
Ibtsam Riaz  
2003-M.Phil-Phy-07 (2003-2006)
  17. **Study of Anisotropic behavior of Plasma Ion Using Electrical and Nuclear Diagnostic Technique**  
Alvina Rafiq Butt  
2003-M.Phil-Phy-05 (2003-2005)
  18. **Ion energy spectrum of Hydrogen plasma using Thomson parabola technique**  
Nirjis Begum  
2003-M.Phil-Phy-02 (2003-2005)
  19. **Characterization of deposited thin films using XRD and SEM**  
Sultan Akhter  
2002-M.Phil-Phy-08 (2002-2005)
  20. **Optimization of radiation of Cs 137 inside a tissue using TLDs**  
Usman Ahmed  
2001-M.Phil-Phy-10 (2001-2005)
  21. **Ion Energy Spectrum Employing Thomson Parabola Technique**  
Khurram Siraj  
2001-M.Phil-Phy-13 (2001-2003)
  22. **Surface modification of semiconductors using lasers**  
Malik Javid Safdar  
2001-M.Phil-Phy-12 (2001-2005)
  23. **Design and fabrication of CW Nd:YAG Laser**  
Mr. Khaliq Mahmood  
2001-M.Phil-Phy-09 (2001-2004)
  24. **Study of Laser Induced Plasma Ion Spectrum Employing Filter Method**  
Ahmad Shuaib  
2003-M.Phil-Phy-02
  25. **Study of Ion Irradiation on Polymers**  
Iram Javaid  
2003-M.Phil-Phy-13
  26. **Measurement of ion velocity and anisotropy in laser plasma**  
Bazgha Ilyas  
2001-M.Phil-Phy-02 (2001-2005)
  27. **Growth of Graphite Films by Pulsed Laser Deposition Technique**  
Huma Malik  
2010-M.Phil.-App-Phy-18
  28. **Fabrication and Optimization of a Laser driven Ion Accelerator**  
Rabia Ahmad  
2010-M.Phil.-App-Phy-17
  29. **X-ray Irradiation induced changes in Electrical & Mechanical Properties of thin metal sheets**  
Muhammad Waseem  
2010-M.Phil.-App-Phy-09
  30. **Catalyst Based Synthesis of Graphene by PLD Technique**  
Rabia Shaheen  
2011-M.Phil.-App-Phy-04
  31. **Nickel Induced Graphene Growth by PLD Technique**  
Khizra Fatima  
2011-M.Phil.-App-Phy-16

32. **Effect of High Energy Ion Implantation on the Electrical Conductivity of Polymers**  
Muhammad Bilal Tahir  
2011-M.Phil.-App-Phy-17
33. **Growth and Characterization of Metal Oxide Doped Graphite Thin Films Prepared by PLD**  
Mohsin Shahbaz Warriach  
2011-M.Phil.-App-Phy-21
34. **Structural and Morphological Characterization of Nanoparticles Grown by Laser Ablation**  
Sabiha Mustafa  
2011-M.Phil.-APP-PHY-28
35. **High energy ion irradiation effects on the electrical and morphological properties of Al, Si and NaCl**  
Rabia Yasmin Khosa  
2011-M.Phil.-App-Phy-08
36. **Ion Tracks Formation on CR39 Employing a Laser Driven Ion Accelerator**  
Hina Gull  
2011-M.Phil.-App-Phy-12
37. **Role of Carbon nano structures for the improvement in efficiency of Lead Acid battery**  
Abdul Haseeb  
2012-M.Phil.-App-Phy-10
38. **Machining by focused ion beam employing tabletop laser driven ion accelerator**  
Hina Ilyas  
2012-M.Phil.-App-Phy-18
39. **Optical studies of silicon using laser**  
Iram Bibi  
2012-M.Phil.-App-Phy-19
40. **Physical and optical properties of Silver and Aluminum nanoparticles synthesized by laser ablation in liquids**  
Mehpara Qureshi  
2012-M.Phil.-App-Phy-25
41. **Nano-Structuring Employing Laser Driven Ion Source**  
Usman Niaz  
2012/II-M.Phil.-App-Phy-06
42. **Fabrication and Implementation of Fresnel Concentrator for Solar Energy**  
Basit Ali  
2012/II-M.Phil.-App-Phy-08
43. **Synthesis and Characterization of Doped Perovskite Oxide**  
Saima Ghulam Muhammad  
2012/II-M.Phil.-App-Phy-15
44. **Fabrication and Utilization of Electron Gun for Surface Modification of Metals**  
Ayesha Jamil  
2012/II-M.Phil.-App-Phy-20
45. **Acid Resistance Enhancement of Human Tooth Enamel by Laser Irradiation**  
Rameesha Chaudhary  
2012/II-M.Phil.-App-Phy-25
46. **Development of Artificial Leaf for Direct Solar to Fuel Conversion**  
Khadija tul Kubra  
2012/II-M.Phil.-App-Phy-28
47. **Synthesis and Characterization of Nanodiamonds**  
Nida liaquat

- 2013-M.Phil-App-Phy-01
48. **Influence of Electron Beam on Corrosion Resistance and Hardness of Shape Memory Alloys (SMAs)**  
Ijaz Yousaf  
2013-M.Phil.-App-Phy-17
49. **Investigate the Outcomes of Extracorporeal Shockwave Lithotripsy (ESWL) by using Electromagnetic, Electroconductive and Piezoelectric Shock Wave Generators**  
Adeel Rehman  
2013-M.Phil.-App-Phy-20
50. **Growth of Nanostructures by using microplasma**  
Muhammad Zahid  
2015-M.phil-App-Phy-23
51. **Fabrication of artificial leaf using metallic alloys as electrodes**  
**Tayyaba Faisal**  
2015-M.Phil.-App-Phy-06
52. **NiMoNx/C nanosheets based hydrogen evolution catalyst for the fabrication of Artificial leaf**  
**Aamina Rafique**  
2015-M.Phil.-App-Phy-25
53. **Self Assembly of Nanodiamonds for bio medical Applications**  
Salma Abid  
2016-M.phil-App-Phy-11
54. **Investigation on Field emission properties of metal or metal oxides Thin Films**  
Sundas Hina  
2016-M.phil-App-Phy-17
55. **Synthesis of Nanoparticles by the deduction of Metallic salt using DC Thermal Plasma**  
Khansa Iftikhar  
2016-M.Phil-App-Phy-31
56. **Preparation of Nano Fluids via Liquid Solid interface employing pulsed laser Ablation Process**  
Saba Azam  
2016-M.phil-App-Phy-34
57. **Synthesis of Superhydrophobic Polymers by Plasma Etching**  
Ambar Riaz  
2016-M.phil-App-phy-25
58. **Design and fabrication of DC Thermal Plasma Generator for various Applications**  
Imran shahadat  
2016-M.Phil-App-Phy-32
59. **Fazila Javed**  
**2017--M.phil-App-phy-05**
60. **Fabrication of Ag-polymer nanocomposites by microplasma technique.**  
Aqsa Mukhtar  
2017--M.phil-App-phy-22

## **M. PHIL (IN PROGRESS)**

1. **Entropy and Quantum Entanglement of atomic systems**  
Shan Ahmad  
2017--M.phil-App-phy-07

2. **Nanopatterning of plastic by using femtosecond laser.**  
Saba Gul  
2017(F)-M.Phil-App-phy-104
3. **Synthesis of carbon Nano structures with plasma electrolysis.**  
Maryam Arshad  
2017(F)-M.phil-App-phy-14
4. **Synthesis and characterization of polyethersulfone composite membranes for various application.**  
Zainab Maqsood  
2017(F)-M.phil-App-phy-22
5. **Formation and characterization of cellulose acetate composite membranes for desalination.**  
Rabia Hassan  
2017(F)-M.phil-App-phy-23
6. **Synthesis of Nano-diamonds by magnetically confined micro plasma.**  
Imran Mushtaq  
2017(F)-M.phil-App-phy-31
7. **Growth of carbon Nano spheres by plasma torch.**  
Ahmad Nawaz  
2017(F)-M.phil-App-phy-29

### **M.SC. (Completed)**

1. **Designing, Fabrication and Operation of Vacuum System**  
Rabia Hamid  
99-MS-Phy-08
2. **Study the Effect of Nd-YAG Laser on the Characteristics of Semiconductor Devices**  
Narjis  
2000-MS-Phy-01
3. **Morphological Study of Metals Irradiated by Laser Generated Ions Using Scanning Electron Microscope**  
Faryaal Mahmood  
2001/II-MS-Phy-02
4. **Plasma Dynamics Study Using Computer Controlled Image Capture System**  
Mr. Nadeem Tahir  
2001/II-MS-Phy-05
5. **Schlieren Imaging Technique to Investigate the Laser Ablated Plasmas**  
Mr. Sajjad Ahmad  
2001/II-MS-Phy-06
6. **Fabrication of Thomson Magnetic Spectrometer for Ion Energy Analysis**  
Mr. Aziz-ur-Rehman  
2001/II-MS-Phy-10
7. **Design and fabrication of Helium Neon Laser**  
Mr. Numan Sadiq  
2001/II-MS-Phy-18
8. **Detection and Time Resolved Analysis of Soft X-Rays from Laser Plasmas**  
Shumaila Karamat  
2001/II-MS-Phy-29
9. **Effect of laser irradiation on ceramics**  
Khurram Waqas Haider  
2002/II-MS-Phy-22



10. **Design and Fabrication of Pin-hole Camera for X-Ray Diffraction**  
Nadeem Sarwar  
2002/II-MS-Phy-06
11. **Si Ion investigation employing Faraday Cup Technique**  
Warda Rana  
2002/II-MS-Phy-14
12. **Visualization by Deflectometry**  
Shazia Parveen  
2002/II-MS-Phy-31
13. **Effect of laser generated ions on surface morphology of Polymers**  
M. Irfan Karamat  
2002/II-MS-Phy-17
14. **Treatment planning and dose calculation in radiation oncology.**  
Talaat Mahmood  
2002-M.Sc-Phy-09
15. **Measurement of magnetic field of plasma by self fabricated Probe**  
Nazar Fareed  
2003-M.Sc-Phy-03
16. **Mechanical Properties of Laser Irradiated Ferromagnetic Metals**  
Mubina Irshad  
2003/II- MS-Phy-03
17. **Electron emission characteristics of laser induced gaseous plasma**  
Saeed Ahmed  
2004-M.Sc-Phy-01
18. **Laser irradiation effects on cadmium**  
Tayyiba Firdous  
2003-M.Sc-Phy-02
19. **Study of micrographs of laser irradiated gold**  
Aysha Ihsan  
2003-M.Sc-Phy-17
20. **Mechanical properties of laser irradiated ferromagnetic materials**  
Mubina Irshad (waiting for viva voce examination)  
2003-M.Sc-Phy-23
21. **Laser mass spectroscopy of magnetic material**  
Afzal Qamar  
2004-M.Sc-Phy-06
22. **Generation of Monoenergetic beam of electrons from laser induced gaseous plasma**  
Ayesha Pervaiz  
2004-M.Sc-Phy-01
23. **Gaseous plasma ion irradiation effects on ceramics**  
M. Yaqoob  
2004-M.Sc-Phy-02
24. **Intensity effects on ion emission from pulsed laser ablation**  
Saima Shaukat  
2004-M.Sc-Phy-12
25. **Deposition of Carbon Thin Film**  
Yasir Idrees  
2004-M.Sc-Phy-25
26. **Morphology of nanosecond laser ablated borosilicate glass surface**  
Abdul Qayyom Khan  
2004-M.Sc-Phy-38
27. **Laser Induced Soft X-Rays Emission from Different Metals using Pin-diode**

- Sehar Sarfraz  
2006-MS-Phy-37
28. **Growth of periodic surface structures on Si by IR and UV laser irradiation**  
Rabia Yasmeen Khosa  
2007-MS-App-Phy-02
29. **Electrical conductivity correlated with micrographs of laser irradiated**  
Adeel Rahman  
2007-MS-App-Phy-27
30. **Laser to x-ray conversion efficiencies of various targets**  
M. Bilal Tahir  
2007-MS-App-Phy-52
31. **Laser ablation of thin polymeric materials**  
Sana Tanveer  
2008- MS-App-Phy-14
32. **Implantation of Al-Ions on SiC**  
Adeel Abbas  
2009-MS-App-PHY-09
33. **Shadowgraphy of laser ablated metallic targets**  
Waseem Iqbal  
2010-MS-APP-PHY-05
34. **Impact of x-rays on the electrical and structural properties of copper**  
Farooq Aslam  
2010-MS-APP-PHY-13
35. **Ion Irradiation effects on Cu**  
Muhammad Imran  
2010-MS-APP-PHY-29
36. **Material Modification Using Laser Produced X-Rays**  
Muhammad Ismail  
2012-MS-APP-PHY-05
37. **Synthesis and Characterization of Nanoparticles Produced by Laser**  
Muhammad Usman  
2012-MS-APP-PHY-22
38. **Characterization of Electron Beam Emitted from a W Based Electron Gun**  
Ambar Riaz  
2013-MS-APP-PHY-11
39. **Growth of Nanodiamond Using Chemical Method**  
Abdul Qadoos  
2013-MS-APP-PHY-19
40. **Change in Electrical Conductivity of Electron Irradiated Semiconductor**  
Afshan Khalid  
2013-MS-APP-PHY-21
41. **Substantial Changes in Surface morphology of Ti and Zn by electron beam irradiation**  
G. Muhammad Mustafa  
2014-MS-APP-Phy-07

## 4. RESEARCH PUBLICATIONS:

**TOTAL = 203 RESEARCH PAPERS**

### INTERNATIONAL RESEARCH PUBLICATIONS

#### Research Papers

**143** Research Papers have been published in International Journals.

#### **LIST OF INTERNATIONAL PUBLICATIONS IN INTERNATIONAL JOURNALS**

Sr. No.	Title of paper	Authors	Journal	Impact Factor	Volume / year of publication
1.	A novel, PbS quantum dot-Sensitized solar cell structure with TiO <sub>2</sub> -fMWCNTS nano-composite filled meso-porous anatase TiO <sub>2</sub> photoanode	Hamid Latif, Saima Ashraf, <b>M.S.Rafique</b> , Ayesha Imtiaz, Abdul Sattar, S. Zaheer, Syeda Ammara Shabbir, Arslan Usman	Solar Energy	4.608	SE-204:617-623 (2020), DOI: 10.1016/j.solener.2020.03.114
2.	Effect of annealing temperature of MoO <sub>3</sub> layer in MoO <sub>3</sub> /Au/MoO <sub>3</sub> (MAM) coated PbS QDs sensitized ZnO nanorods/FTO glass solar cel	Hamid Latif, Rabia Zahid, Saba Rasheed, Abdul Sattar, <b>M.S.Rafique</b> , S. Zaheer, Syeda Ammara Shabbir, K. Javed, K. Javed, Raja J. Amjad, S. Malik, Shaziab Khurshid	Solar Energy	4.608	Solar Energy 198:529-534 (2020), DOI: 10.1016/j.solener.2020.01.078
3.	Gold nanoparticles mixed multiwall carbon nanotubes, supported on graphene nano-ribbons (Au-NT-G) as an efficient reduction electrode for Polymer Electrolyte Membrane fuel cells (PEMFC)	Hamid Latif, Danish Wasif, Saba Rasheed, Abdul Sattar, <b>M. S. Rafique</b> , Abdul Waheed Anwar, S. Zaheer, Syeda Ammara Shabbir, Ayesha Imtiaz, Mehwish Qutab, Arslan Usman	Renewable Energy	6.274	Renewable Energy 154 (2020), DOI: 10.1016/j.renene.2020.03.061

4.	Idiosyncratic Cellulose Acetate Nanocomposite Membranes: Synthesis and Performance Control Study for Desalination	Amina Afzal, <b>M. S. Rafique</b> , Sadia Sagar, Shariqa Hassan Butt, Umber Kalsoom, Muhammad Rafique	Environmental Technology	1.918	(2019),  DOI: 10.1080 /09593330.2019.1668862
5.	Effects of solvents on structural, optical and photovoltaic properties of photo anodes for dye-sensitized solar cells	Azhar A. Zaidi, <b>M. S. Rafique</b> , Samia Aslam, Muhammad Saleem, Dr. Muhammad Ikram, Khurram Siraj, Anwar Latif, Rana M Sharif, Sheeba Ghani, Muhammad Ashfaq Ahmad	Optik	1.191	Optik Optics 200:163444 (2019),  DOI: 10.1016 /j.ijleo.2019.163444
6.	Effect of Concentration of Single-Wall Carbon Nanotubes (SWCNTs) in a SWCNTs/ZnO Nanorods Channel-Based Thin-Film Transistor	Hamid Latif, Saba Rasheed, Abdul Sattar, <b>M. S. Rafique</b> , S. Zaheer, Arslan Usman, Mahroze Munam, Ayesha Imtiaz	Journal of Electronic Materials	1.676	(2019),  DOI: 10.1007 /s11664-019-07517-8
7.	Femtosecond laser induced periodic surface structures for the enhancement of field emission properties of tungsten	Mahreen Akram, Shazia Bashir, Sohail Abdul Jalil, Mohamed Elkabbash, Friedrich Aumayr, Ali Ajami, Wolfgang Husinsky, Khaliq Mahmood, <b>M. S. Rafique</b>	Optical Materials Express	2.673	OME 9(7):3183-3192 (2019),  DOI: 10.1364 /OME.9.003183
8.	Laser ablation synthesis of silver nanoparticles in water and dependence on laser nature	Muhammad Rafique, <b>M. S. Rafique</b> , Umber Kalsoom, Amina Afzal, Shariqa Hassan Butt, Arslan Usman	Optical and Quantum Electronics	1.168	(2019),  DOI: 10.1007 /s11082-019-1902-0
9.	Surface, structural, electrical and mechanical modifications of pulsed laser deposited ZrN thin films by implantation of MeV carbon ions	Khaliq Mahmood, Shazia Bashir, Faizan-ul Haq, Mahreen Akram, Asma Hayat, <b>M. S. Rafique</b> , Arshad Mahmood	Nuclear Instruments and Methods in Physics Research Section B Beam Interactions with Materials and Atoms	1.433	J.nimb 448:61-69 (2019), doi.org/10.1016/j.nimb.2019.04.013  DOI: 10.1016 /j.nimb.2019.04.013

10.	Laser nature dependence on enhancement of optical and thermal properties of copper oxide nanofluids	Muhammad Rafique, <b>M. S. Rafique</b> , Shariqa Hassan Butt, Amina Afzal	Applied Surface Science	4.439	Applied Surface Science 483  (2019),DOI: 10.1016/j.apsusc.2019.03.306
11.	The role of laser fluence and ambient environments on femtosecond laser induced breakdown spectroscopy and on surface morphology of Mg and Zr	Asma Hayat,Shazia Bashir, Donna Strickland, <b>M. Shahid Rafique</b> , Benjamin Wales, Sahr Al-Tuairqi, and Joseph H. Sanderson	Journal of Applied Physics	2.176	J. Appl. Phys. 125, 083302 (2019); doi: 10.1063/1.5063897
12.	Novel and facile synthesis of silver nanoparticles using Albizia procera leaf extract for dye degradation and antibacterial applications	Muhammad Rafique, Iqra sadaf, <b>Muhammad Shahid Rafique</b> , Muhammad Bilal Tahir, Tahir Iqbal, Gulam nabi,,Kulsoom sugra:	Material science and engineering	5.08	02/2019; DOI:10.1016/j.msec.2019.02.059
13.	Influence of laser and material parameters on two photon absorption in Rhodamine B and Rhodamine 6 G solutions in MeOH	Rabia Ahmad, <b>M. Shahid Rafique</b> , Ali Ajami, Shazai Bashir, Wolfgang husinsky, Sman Iqbal	Optik	1.191	IJLEO 62450 23-02-2019
14.	Fabrication of Novel Hybrid Composite La <sub>2</sub> -xCoxCuO <sub>4</sub> Electrode for High Performance Supercapacitors	Muhammad Rafique, Iqra Sadaf, <b>Muhammad Shahid Rafique</b> ,Gulam Nabi,Muhammad isa khan,Muhammad bilal tahir	International Journal of Energy Research	3.009	02/2019
15.	Morphological, elemental and hardness analysis of femtosecond laser irradiated Al targets	Umm-i-kalsoom Chaudhry, Nisar Ali, Shazia Bashir, Narjis Begum <b>M.S Rafique</b> , , Wolfgang Husinsky.	Optics & Laser Technology	2.503	12/2018; DOI: 10.1016/j.optlastec.2018.06.051
16.	Alivalent Ho <sup>3+</sup> ion doped BaZrO <sub>3</sub> thin films; Structural, optical and photoluminescence properties	Shariqa Hassan Butta,b, <b>M.S. Rafiquea</b> , Shazia Bashirb , Khaliq Mehmoodb , Arshad Mahmoodc	Ceramics International	3.057	12/2019; DOI: 10.1016/j.optlastec.2018.06.051
17.	Morphological, Structural and Hardness Changes on Human Dental Enamel Irradiated with Nd: YAG Laser	Sumera Afsheen, M. Bilal Tahir, Tahir Iqbal, Shamsa Firdous, Jalil-ur Rehman, H. M. Noor	Laser Phys	1.158	Laser Phys, 28 (2018) 126004 9pp

		ul huda khan, M Abrar, M. Naeem and <b>M. Shahid Rafique</b>			
18.	Material and method selection for efficient solid oxide fuel cell anode: Recent advancements and reviews	Muhammad Rafique, Huma Nawaz <b>M. Shahid Rafique</b> , M. Bilal Tahir G. Nabi, N.R. Khalid	International Journal of Energy Research	3.009	(2018),  DOI: 10.1002/er.4210
19.	A comparative study on finding an effective root for the introduction of hydrogen into microplasma during diamond growth.	Saman Iqbal, <b>Muhammad Shahid Rafique</b> , Sultan Akhtar, Nida Liaqat, Nida Iqbal, Rabia Ahmad:	Journal of Physics and Chemistry of Solids	2.207	06/2018; 122., DOI:10.1016/j.jpccs.2018.06.001
20.	Effect of structural transformation of C + -ion implanted PMMA into quasi-continuous carbonaceous layer on its optical and electrical properties	Shafaq Arif, <b>Muhammad Shahid Rafique</b> , Farhat Saleemi, Riffat Sagheer	Optical Materials	2.320	Volume 76, pp 147-154 [ISSN 0925-3467] 2018
21.	Impact of carrier gas flow rate on the synthesis of nanodiamonds via microplasma technique	Saman Iqbal, <b>Muhammad Shahid Rafique</b> , Muhammad Zahid, Shazia Bashir, Muhammad Ashfaq Ahmad, Rabia Ahmad	Materials Science in Semiconductor Processing	2.593	Volume 74, pp 31-41 [ISSN 1369-8001] 2018
22.	Investigation of field emission properties of laser irradiated tungsten	Mahreen Akram, Shazia Bashir, Sohail Abdul Jalil, <b>Muhammad Shahid Rafique</b> , Asma Hayat, Khaliq Mahmood,	Applied physics A	1.604	Volume 124, pp 180 [ISSN 1432-0630] 2018
23.	Laser induced surface structuring of Cu for enhancement of field emission properties	Mahreen Akram, Shazia Bashir, Sohail Abdul Jalil, <b>Muhammad Shahid Rafique</b> , Asma Hayat, Khaliq Mahmood,	Material Research Express	0.87	Volume 5, pp 025029 [ISSN 2053-1591] 2018
24.	Irradiation Effects of Cu Ions on the Electrical and Morphological Properties of Polypropylene	Muhammad Irfan, Safdar Ali, Muhammad Bilal Tahir, <b>M.S Rafique</b>	Polymers and Polymer Composites	0.461	Volume 26, 9 issues [ISSN 0967-3911] 2018
25.	Bi- tri- and few-layer graphene growth by PLD technique using Ni as catalyst	Umber kalsoom, <b>M. Shahid Rafique</b> , Shamaila Shahzadi, Khizra Fatima, Rabia Shaheen	Materials Science- Poland	0.854	Volume 35, pp 687-693 [ISSN 2083-1331] 2018

26.	Spectroscopic studies of Laser Generated Plasma X-rays and their effects on polymeric materials	Muhammad Bilal Tahir, Shoaib Ullah, Safdar Ali, Muhammad Rafique, <b>M.S Rafique</b>	Indian Journal of Pure and Applied Physics	0.582	Volume 56, pp 392-398 [ISSN 0975-1041] 2018
27.	A review on green synthesis of silver nanoparticles and their applications	Muhammad Rafique, Iqra Sadaf, <b>M.Shahid Rafique</b> , M. Bilal Tahir	Artificial Cells Nanomedicine and Biotechnology	2.20	Volume 45, pp 1-20 [ISSN 2169-1401] 2017
28.	Impact of radiation induced crosslinking on structural, morphological, mechanical and optical properties of Polymethylmethacrylate thin films	Saman Iqbal, <b>Muhammad Shahid Rafique</b> , Nida Iqbal, Shazia Bashir, Shafaq Arif, Rabia Ahmad	Progress In Organic Coatings	2.955	Volume 111, pp 202-209 [ISSN 0300-9440] 2017
29.	Comprehensive analysis of structure and temperature, frequency and concentration-dependent dielectric properties of lithium-substituted cobalt ferrites (Li <sub>x</sub> Co <sub>1-x</sub> Fe <sub>2</sub> O <sub>4</sub> )	Safia Anjum, Mehru Nisa, Aneeqa Sabah, <b>M. S. Rafique</b> , Rehana Zia	Applied Physics A- Materials Science and Processing	1.42	pp 554-561 [ISSN 0947-8396] 2017
30.	The role of spatial confinement for improvement of laser-induced Mg plasma parameters and growth of surface features	Asma Hayat, Shazia Bashir, <b>Muhammad Shahid Rafique</b> , Riaz Ahmad, Mahreen Akram, Khaliq Mahmood, Ali Zaheer	Applied Physics A- Materials Science and Processing	1.604	PP 505-522 [ISSN 0947-8396] DOI 10.1007/s00339-017-1102-3 2017
31.	Spatial confinement effects on spectroscopic and morphological studies of nanosecond laser-ablated Zirconium	Asma Hayat, Shazia Bashir, <b>M.S Rafique</b> , Riaz Ahmad, Mahreen Akram, Khaliq Mahmood, Ali Zaheer	Optics Laser Technology	1.647	Volume 97, pp 60-70 [ISSN 0030-3992] 2017
32.	Influence of Er doping on the structural, optical and luminescence properties of pulsed laser deposited Er: BaZrO <sub>3</sub> thin films	S.H Butt, <b>M.S Rafique</b> , Shazia Bashir, Usman Ilyas, K.Siraj, M.S Awan, Khaliq Mahmood, M.Rafique, Amina Afzal	Ceramics International	3.057	Volume 43, Issue 15, pp 12162-12166 [ISSN 0272-8842] 2017
33.	Spatial confinement effects on spectroscopic and morphological studies of nanosecond laser-ablated Zirconium	Asma Hayat, Shazia Bashir, <b>M. S. Rafique</b> , Riaz Ahmed, Mahreen Akram, Khaliq Mahmood, Ali Zaheer	Optics & Laser Technology 97:In Pres	3.233	(2017), DOI: 10.1016/j.optlastec.2017.05.037

34.	Energetic Metallic ion Implantation in Polymers via Cost-effective Laser Driven Ion Source	M. Bilal Tahir, <b>M. Shahid Rafique</b> , Rabia Ahmad, Muhammad rafique, Tahir Iqbal, Ali Hasssan	Applied Physics B	1.696	Volume 123, pp 204 [ISSN 1432-0649] 2017
35.	Growth of surface structures correlated with structural and mechanical modifications of brass by laser induced Si plasma ions implantation	Shahbaz Ahmad · Shazia Bashir · <b>M. Shahid Rafique</b> · Daniel Yousaf	Applied Physics A	1.444	(2016) [ISSN: 1432-0630]
36.	Electron emission characterization of laser-induced gaseous plasma	M. Bilal Tahir, Muhammad rafique, <b>M. Shahid Rafique</b> , Tahir Iqbal, Ghulam Nabi	Indian Journal of Pure and Applied Physics	0.521	Volume 12, pp 145- 152 [ISSN 0975-1041] 2017
37.	Femtosecond laser fluence based nanostructuring of W and Mo in ethanol	Shazia Bashir, <b>M.S Rafique</b> , Chandra Sekher Nathala, A. Ajami, Wolfgang Husinsky	Physica B Condensed Matter	0.633	Volume 513, pp 48-57 [ISSN 0921-4526] 2017
38.	Spatial confinement effects employed by metallic blocker and Ar gas pressures on laser induced breakdown spectroscopy & surface modifications of laser irradiated Mg	Asma Hayat, Shazia Bashir, <b>M.S Rafique</b> , R. Ahmad, M. Akram, K. Mahmood, A. Zaheer, T. Hussain, A. Dawood	Laser and Particle Beam	1.42	Volume 35, Issue 32, pp 313-325 [ISSN 1469-803X] 2017
39.	A Review on Synthesis, Characterization and Applications of Copper Nanoparticles Using Green Method	Muhammad Rafique, Ahson J. Shaikh, Reena Rasheed, Muhammad Bilal Tahir, Hafiz Faiq Bakhat, <b>Muhammad Shahid Rafique</b> , Faiz Rabbani	Nano brief reports and review	1.025	Volume 55 pp 1750043-1750065 [ISSN 1793-7094] 2017
40.	Effect of liquid environment on the titanium surface modification by laser ablation	Nisar Ali, Shazia Bashir, Umm-i-Kalsoom, Narjis Begum, <b>M Shahid Rafique</b> , Wolfgang Husinsky	Applied Surface Science	3.387	Volume 405, pp 298-307 [ISSN: 0169-4332] 2017
41.	Nanostructuring of zirconium by femtosecond laser irradiation in the ambient environment of air and ethanol.	Nisar Ali , Shazia Bashir, Umm-i-Kalsoom, <b>M Shahid Rafique</b> , Wolfgang Husinsky	Optik - International Journal for Light and Electron Optics	0.742	Volume 134, 149-160 (2017) [ISSN: 0030-4026]
42.	Dependence of the structural optical and thermo-physical properties of gold nano-particles	Muhammad Rafique , <b>Muhammad Shahid Rafique</b> ,	Optik - International Journal	0.742	Vol. 134, 140-148 (2017)



	synthesized by laser ablation method on the nature of laser	Shariqa Hassan Butt, Arslan Usman	for Light and Electron Optics		[ISSN: 0030-4026]
43.	Effect of silver ion-induced disorder on morphological, chemical and optical properties of poly (methyl methacrylate)	Shafaq Arif, Farhat Saleemi, <b>M. Shahid Rafique</b> , Fabian Naab, Ovidiu Toader, Arshad Mahmood, Uzma Aziz	Nuclear Instruments and Methods in Physics Research B	1.389	Vol. 387, 86-95 (2016) [ISSN: 0168-583X]
44.	Laser Induced Surface Morphology of Molybdenum Correlated with Breakdown Spectroscopy	Mahreen Akram, Shazia Bashir, <b>Muhammad Shahid Rafique</b> , Asma Hayat, Khaliq Mahmood	Plasma Chemistry and Plasma Processing	1.811	DOI: 10.1007/s11090-016-9752-z [ISSN: 0272-4324]
45.	Impact of nucleation of carbonaceous clusters on structural, electrical and optical properties of Cr <sup>+</sup> -implanted PMMA	Shafaq Arif, <b>M. Shahid Rafique</b> , Farhat Saleemi, Fabian Naab, Ovidiu Toader, Arshad Mahmood, Uzma Aziz	Applied Physics A	1.444	Vol. 122, 866 (2016) [ISSN: 0947-8396]
46.	Impact of Argon gas on optical and electrical properties of Carbon thin films	Arslan Usman, <b>M.S. Rafique</b> , S.F. Shaukat, Khurram Siraj, Afshan Ashfaq, Safia Anjum, Muhammad Imran, Abdul Sattar	Physica B: Condensed Matter	1.352	Vol. 503, 157-161 (2016) [ISSN: 0921-4526]
47.	The generation, detection and measurement of laser induced carbon plasma ions and their implantation effects on brass substrate	Shazia Bashir · Shahabaz Ahmad · Daniel Yousaf · <b>M. Shahid rafique</b>	Radiation Effects and Defects in Solids	0.472	Pg. 565-582 (2016) [ISSN:1042-0150]
48.	Surface topographical and structural analysis of Ag <sup>+</sup> -implanted polymethylmethacrylate	Shafaq Arif, <b>M. Shahid Rafique</b> , Farhat Saleemi, Fabian Naab, Ovidiu Toader, Riffat Sagheer, Shazia Bashir, Rehana Zia, Khurram Siraj, Saman Iqbal	Nuclear Instruments and Methods in Physics Research B	1.124	Vol. 381, 114-121 (2016) [ISSN: 0168-583X]
49.	The generation, detection and measurement of laser-induced carbon plasma ions and their implantation effects on brass substrate	Shahbaz Ahmad, Shazia Bashir, <b>M. Shahid Rafique</b> , Daniel Yousaf, Riaz Ahmad	Radiation Effects and Defects in Solids	0.472	Vol. 171, Issue 5-6 (2016) [ISSN: 1042-0150]
50.	Electron beam fracturing of ZnO nanostructures and modification in optical band gap	K Siraj, M Kanwal, S Saleem, J D Pedarnig, <b>M S Rafique</b> , S Naseem	Indian Journal of Physics	1.166	Vol. 90, Issue 12, 1431-1436 (2016)

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51.	Spectroscopic and Morphological Study of Laser Ablated Titanium	Asma Hayat, Shazia Bashir, <b>Muhammad Shahid Rafique</b> , Mahreen Akram, Khaliq Mahmood, Saman Iqbal, Asadullah Dawood, and Arooj	Optics and Spectroscopy	0.644	Vol. 121, No. 1, 1-9 (2016) [ISSN: 0030-400X]
52.	Epitaxial thin-film growth of Ruddlesden–Popper-type Ba <sub>3</sub> Zr <sub>2</sub> O <sub>7</sub> from a BaZrO <sub>3</sub> target by pulsed laser deposition	Shariqa Hassan Butt, <b>M. S. Rafique</b> , K. Siraj, A. Latif, Amina Afzal, M. S. Awan, Shazia Bashir, Nida Iqbal	Applied Physics A	1.444	Vol 122, 658 (2016) [ISSN: 0947-8396]
53.	Antibacterial Action of Chemically Synthesized and Laser Generated Silver Nanoparticles against Human Pathogenic Bacteria.	Nosheen Zafar, Shahzadi Shamaila Jawad Nazir, Rehana Sharif, <b>Muhammad Shahid Rafique</b> , Jalees Ul-Hasan, Syeda Ammara, Hina Khalid	Journal of Materials Science and Technology	2.267	Vol. 32, Issue 8, 721–728 (2016) [ISSN: 1005-0302]
54.	Crystal growth of antimony substituted cobalt ferrites thin films deposited by electron beam	Safia Anjum, Asmara Shabab, <b>Shahid Rafique</b> , Rehana Zia, Saira Riaz, Sania Hameed, Madeeha Riaz,	Optik - International Journal for Light and Electron Optics	0.742	Vol. 127, Issue 20, 8487–8498 (2016) [ISSN: 0030-4026]
55.	Modification in surface properties of poly-allyl-diglycol-carbonate (CR-39) implanted by Au <sup>+</sup> ions at different fluences	Riffat Sagheer, <b>M. Shahid Rafique</b> , Farhat Saleemi, Shafaq Arif, Fabian Naab, Ovidiu Toader, Arshad Mahmood, Rashad Rashid, Irshad Hussain	Material Science Poland	0.533	Vol. 34, No 2, 468-478 (2016) DOI: 10.1515/msp-2016-0067 [ISSN: 2083-134X]
56.	Synergistic Effect of Functionalized Nanokaolin Decorated MWCNTs on the Performance of Cellulose Acetate (CA) Membranes Spectacular.	Amina Afzal, <b>M. S. Rafique</b> , Nadeem Iqbal, Asif Ali Qaiser, Abdul Waheed Anwer, Sadia Sagar Iqbal	Nanomaterials	2.1	Vol. 6, 79 (2016) [ISSN 2079-4991]
57.	Microstructural and optical properties of dysprosium doped copper oxide thin films fabricated by pulse laser deposition technique.	Hafsa Faiz, K. Siraj, M. F. Khan, M. Irshad, S. Majeed, <b>M. S. Rafique</b> , S. Naseem	J Mater Sci: Mater Electron	1.569	DOI 10.1007/s10854-016-4824-7 [ISSN 1573-482X]

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60.	High performance of SDC and GDC core shell type composite electrolytes using methane as a fuel for low temperature SOFC	Muneeb Irshad, Khurram Siraj, Rizwan Raza, Fayyaz Javed, Muhammad Ahsan, Imran Shakir, and <b>Muhammad Shahid Rafique</b>	AIP advances	1.590	Vol. 6, 025202 (2016) [ISSN 2158-3226]
61.	Nano-hydroxyapatite reinforced zeolite ZSM composites: A comprehensive study on the structural and in vitro biological properties	Nida Iqbal, M.R. Abdul Kadir, Saman Iqbal, Saiful Izwan Abd Razak, <b>M. Shahid Rafique</b> , H.R. Bakhsheshi-Rad, Mohd. Hasbullah Idris, M.A. Khattak, H.R.B. Raghavendran, AA Abbas	Ceramics International	2.758	Vol. 42, Issue 6, 7175-7182 (2016) [ISSN: 0272-8842]
62.	SPECTROSCOPIC AND MORPHOLOGICAL STUDY OF LASER ABLATED TITANIUM	Asma Hayat, Shazia Bashir, <b>M. S. Rafique</b> , Mahreen Akram, Khaliq Mahmood, Saman Iqbal, Asadullah Dawood, Arooj	Optics and spectroscopy		(2016) DOI: 10.7868/S0030403416070035
63.	A review on green synthesis of silver nanoparticles and their applications	Muhammad Rafique, Iqra Sadaf, <b>M. Shahid Rafique</b> , M Bilal Tahir	Artificial cells	2.024	Pg. 1-20 (2016) [ISSN: 2169-1401]
64.	Femtosecond laser induced nanostructuring of Zirconium in liquid confined environment	Nisar Ali, Umm-i-Kalsoom Chaudhry, Shazia Bashir, Wolfgang Husinsky <b>M. S. Rafique</b> , Narjis Begum, A. Ajami	Chinese Physics B	1.223	(2016) DOI: 10.1088/1674-1056/26/1/015204

65.	Electrochemical studies of perovskite cathode material for direct natural gas fuel cell	Muhammad Sufyan Javed, Rizwan Raza, Zishan Ahsan, <b>M. S. Rafique</b> , Shahzadi Shamaila, Saleem Farooq Shaukat, Dr Nusrat shaheen, Muhammad Saeed Khalid, Hu Chengou, Bin Zhu	International Journal of Hydrogen Energy	4.939	Vol-41 (2016)  DOI: 10.1016/j.ijhydene.2015.11.144
66.	Microstructure and Optical Properties of Rare-earth Doped ZnO Thin Films	Khurram Siraj, Jaweria Zartaj, Shahzad Naseem, <b>M. S. Rafique</b> , Saima Shaukat	Materials today: proceedings		Vol-2 (2015)  DOI: 10.1016/j.matpr.2015.11.052
67.	Microstructural and Optical Properties of Zinc Doped Copper Oxide Thin Films	Khurram Siraj, Hafsa Faiz, <b>M. S. Rafique</b> , Shahzad Naseem	Materials today: proceedings		Vol. (2015) - ISSN:
68.	The effect of fluence and ambient environment on the surface and structural modification of femtosecond laser irradiated Ti.	Umm-i-Kalsoom Chaudhry, Shazia Bashir, Nisar Ali, <b>M. S. Rafique</b> , Wolfgang Husinsky, Chandra S.K Nathala, Sergey V. Makarov	Chinese Physics B	1.6	Vol. (2015) - ISSN: 1674-1056 In press
69.	Investigation of Magnetic Anisotropy in Cobalt Chromium (CoCr <sub>0.5</sub> Fe <sub>1.5</sub> O <sub>4</sub> ) Spinel Ferrite Thin Films	Safia Anjum, Ayesha Salman, <b>M. S. Rafique</b> , Hina Iqbal	Journal of superconductivity and novel magnetism	0.91	Vol. 28 (2015) 3147-3156  ISSN: 1557-1947
70.	Surface and morphological features of laser-irradiated Silicon under vacuum, nitrogen and ethanol	Asma Hayat, Shazia Bashir, <b>M. S. Rafique</b> , Mahreen Akram, Khaliq Mahmood, Muhammad Hassan Iqbal	Applied Surface Science	2.711	Vol. 357 (2015) 2415-2425 ISSN: 0169-4332
71.	Influence of 400 keV carbon ion implantation on structural, optical and electrical properties of PMMA	Shafaq Arif, <b>M. S. Rafique</b> , Farhat Saleemi, Riffat Sagheer, Fabian Naab, Ovidiu Toader, Arshad Mahmood, Rashad Rashid, Mazhar Mahmood	Nuclear Instruments and Methods in Physics Research B	1.124	Vol. 358 (2015) 236-244 ISSN: 0168-583X
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74.	Pulsed laser ablation of Germanium under vacuum and hydrogen environments at various fluencies	Hassan Iqbal, Shazia Bashir, <b>Muhammad Shahid Rafique</b> , Asadullah Dawood, Mahreen Akram, Khaliq Mahmood, Asma Hayat, Riaz Ahmad, Tousif Hussain, Arshad Mahmood	Applied Surface Science	2.711	Vol. 344 (2015) 146-158 [ISSN: 0169-4332]
75.	Raman spectroscopy and microstructure of the pulsed laser-treated silver-anatase thick film	Yasir F. Joya, K. S. Joya, S. Bashir, A. W. Anwar, <b>M. S. Rafique</b> , Riaz Ahmed	Applied Physics A	1.704	Vol. 120 (2015) 1173-1179 ISSN: 0947-8396
76.	Polypyrrole thin films decorated with copper nanostructures at counter electrode for dye-sensitized solar cells	Sheeba Ghani, Rehana Sharif, Saima Bashir, Azhar A. Zaidi, <b>M.S. Rafique</b> , Ayesha Ashraf, Shamaila Shahzadi, Shaista Rafique, Afzal H. Kamboh	Journal of Power Science	6.217	Vol.282 (2015) pp 416-420 [ISSN: 0378-7753]
77.	Liquid assisted ablation of zirconium for the growth of LIPSS at varying pulse durations and pulse energies by femtosecond laser irradiation	Bashir S, <b>M.S. Rafique</b> Husinsky W	Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms	1.12	Vol. 349 (2015) 230-238 [ISSN: 0168-583X]
78.	Optical Response of UV Laser Irradiated Extrinsic Semiconductor	Maryam Sardar, Zaka Ullah, Anwar Latif, Bushra Jabar, Abida Perveen, <b>Muhammad Shahid Rafique</b> , Mu	Armenian Journal of Physics	0.287	Vol. 8 (2015) 79-84 ISSN: 1068-3372

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79.	SEM and Raman spectroscopy analyses of laser-induced periodic surface structures grown by ethanol-assisted femtosecond laser ablation of chromium	Shazia Bashir, <b>M. S. Rafique</b> , Chandra S.R Nathala, Wolfgang Husinsky	Radiation Effects and Defects in Solids	0.51	Vol. 170 (2015) 1-15 ISSN: 1042-0150
80.	Morphological and spectroscopic characterization of laser-ablated tungsten at various laser irradiances	Mahreen Akram, Shaziar Bashir, <b>Muhammad Shahid Rafique</b> , Asma Hayat, Khaliq Mahmood, Asadullah Dawood, M.F. Bashir	Applied Physics A: Materials Science & Processing	1.704	Doi 10.1007/s00339-015-9052-0 [ISSN: 0947-8396]
81.	Effect of laser pulses on the surface and structural modification of ablated titanium in a liquid-confined environment	Nisar Ali, Shazia Bashir, Umm-i-Kalsoom, <b>M. Shahid Rafique</b> , Daniel Yousaf & Shahbaz Ahmad	Radiation Effects and Defects in Solids: Incorporating Plasma Science and Plasma Technology	0.51	Vol. 170, No. 2, 121-129 (2015) [ISSN:1042-0150]
82.	Crater geometry and morphological changes on gold sheet during microdrilling	A, Latif, <b>M. S. Rafique</b> , K. A. Bhatti, A. Perveen	International Journal of Manufacturing Technology	1.458	Vol. 81 (2015) 1-9 ISSN: 0268-3768
83.	Formation of Multi-Walled carbon nanotubes and graphene in methane arc discharge plasma	Kashif Chaudhary, K. A. Bahtti, <b>M. S. Rafique</b> , Noriah Bidin	Digest Journal of Nanomaterials and Biostructures	0.95	Vol. 9 (2015) 1297-1308 ISSN: 1842 - 3582
84.	Effect of zinc induced compressive stresses on different properties of copper oxide thin films	H Faiz, K. Siraj, <b>M S Rafique</b> , S Naseem and A W Anwar	Indian Journal of Physics	1.377	Vol. 89(4) 353 - 360 April 2015 [ISSN: 0973 - 1458]
85.	A green method for the synthesis of copper nanoparticles using l-ascorbic acid	Asim Umer, Shahid Naveed, Naveed Ramzan, <b>M. Shahid Rafique</b> , Muhammad Imran	Matéria (Rio de Janeiro)	0.074	Vol. 19 no.3 Rio de Janeiro July/Sept. 2014 [ISSN 1517-7076]
86.	Implantation of various energy metallic ions on al substrate using a table top laser driven ion source	Rabia Ahmad, <b>M. Shahid Rafique</b> , M. Bilal Tahir and Huma Malik	Laser and Particle Beams	1.701	Vol. 32, Issue 2 May 2014, pp 261-270 [ISSN: 0263-0346]

87.	Time-resolved X-rays emission and laser to X-rays conversion efficiency of metallic targets	M. Rafique, <b>M. Shahid Rafique</b> , M. Bilal Tahir, Muneeb Irshad, Shahbaz Majeed	International Journal of Scientific & Engineering Research	3.2	Volume 5, Issue 2, Feb. 2014 [ISSN 2229-5518]
88.	The formation of nanodimensional structures on the surface of Tin exposed to femtosecond laser pulses in the ambient environment of ethanol	Shazia Bashir, <b>M. Shahid Rafique</b> , Chandra S. Nathala, Wolfgang Husinsky	Applied Surface Science	2.711	Vol. 290 (2014), 53 - 58 [ISSN: 0169-4332]
89.	Surface and structural modifications of titanium induced by various pulse energies of a femtosecond laser in liquid and dry environment	Shazia Bashir, <b>M. Shahid Rafique</b> , Chandra Sekher Nathala, Wolfgang Husinsky	Applied Physics A Material Science and Processing	1.704	Vol. 114 (2014), 243 - 251 [ISSN: 0947-8396]
90.	Formation of Multi-walled Carbon Nanotubes and Graphene in Methane Arc Discharge Plasma	K. T. Chaudhary, K. A. Bahtti, <b>M. S. Rafique</b> , H. Jamil, J Ali, P. P. Yupapin	Digest Journal of Nanomaterials and Biostructures	0.95	Vol. 9, No. 4, Oct - Dec 2014, pp. 1297 - 1308 [ISSN:1842-3582]
91.	Identification of non-thermal and thermal processes in femtosecond laser-ablated aluminum	Shazia Bashir, <b>M. Shahid Rafique</b> , Wolfgang Husinsky	Radiation Effects & Defects in Solids	0.51	Vol. 168, No. 11-12, Dec. 2013, pages 902-911 [ISSN:1042-0150]
92.	The growth of nanoscale periodic and dot-like structures on the surface of stainless steel with femtosecond laser pulses in the dry and wet ambient environment	Shazia Bashir, <b>M. Shahid Rafique</b> , Ali Ajmal, Wolfgang Husinsky, Umm-i-Kalsoom	Applied Physics A	1.704	Vol. 113 (2013), 673 - 681. 29-03-2013  [ISSN: 0947-8396]
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94.	Magnetic anisotropy in nanocrystalline BaFe <sub>12</sub> O <sub>19</sub> thin films deposited under various applied magnetic fields	<b>M. Shahid Rafique</b> , Safia Anjum, K. Siraj	Thin Solid Films,	1.759	Vol. 545, 31 Oct. 2013, Pages 608-613 [ISSN: 0040-6090]
95.	Deposition and Characterization of Strontium Hexa Ferrite(Sr Fe <sub>12</sub> O <sub>19</sub> )by PLD technique	M. Khaleeq-ur-Rahman, K.A.Bhatti, <b>M.S.Rafique</b> , A. Latif, Sultana Fouuz-zia	Optics and Laser Technology	1.315	Vol.47 (2013) 361 - 365 [ISSN 0030-3992]

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97.	Selection of A Suitable Method for the Synthesis of Copper Nanoparticles	Asim Umer, Shahid Naveed, Naveed Ramzan, <b>Muhammad Shahid rafique</b>	Nano	1.09	Vol. 07 , 1230005 (2012) [18 pages] [ISSN: 1793-2920]
98.	Effect of UV irradiation on the structural, optical and electrical properties of Platinum	A. Latif, K.A. Bhatti M. Khaleeq-ur-Rahman, <b>M.S. Rafique</b>	Radiation Effects and Defects in Solids	0.51	Vol.167 No.12 Dec. 2012 929-936 [ISSN:1042-0150]
99.	Identification of ultra-fast electronic and thermal processes during femtosecond laser ablation of Si	Shazia Bashir, <b>M. Shahid Rafique</b> , Wolfgang Husinsky	Applied Physics A	1.704	Vol. 109: 421 - 429 (2012) [ISSN: 0947-8396]
100.	Impact of X-ray irradiation on PMMA thin films	Saman Iqbal, <b>Muhammad Shahid Rafique</b> Safia Anjum, Asma Hayat, Nida Iqbal	Applied Surface Science	2.711	Vol. 259 (2012) 853-860 [ISSN: 0169-4332]
101.	Effect of repetitive pulsed laser irradiation on plasma plume intensity and surface morphology of 15 MeV electron-defected silicon	K. Siraj, M. Shoib, S. Ali, <b>M. S. Rafique</b> , Saif-ur-Rehman	International Journal of Modern Physics B (Singapore)	1.343	Vol. 14, No.4, April 2012, pp 333-337 [ISSN 2319-7064]
102.	Effect of cumulative nanosecond laser pulses on the plasma emission intensity and surface morphology of Pt- and Ag- ions deposited silicon	K. Siraj, M. Z. Butt, M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , Saima Rafique, Fakhar-un-Nisa	Plasma Science and Technology (IOP, UK)	0.579	Vol.14(4),333-337.2012 [ISSN 1009-0630]
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104.	Investigation of Induced Parallel Magnetic Anisotropy at Low Deposition Temperature in Ba-hexaferrites Thin Films	Safia Anjum, <b>M. Shahid Rafique</b> , M. Khaleeq-ur-Rahman, K. Siraj, Arslan Usman, S.I. Hussain, S. Naseem	Journal of Magnetism and Magnetic Materials	1.408	Vol. 324, Issue 5, March 2012, Pages 711-716 [ISSN: 0304-8853]



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106.	Influence of ambient gas and its pressure on the laser-induced breakdown spectroscopy and the surface morphology of laser-ablated Cd	Shazia Bashir, Nazar Farid, Khaliq Mahmood, <b>M. Shahid Rafique</b>	Applied Physics A	1.704	Vol. 107: 203-212 (2012) [ISSN: 0947-8396]
107.	Surface modification of platinum by laser-produced X-rays	Hamid Latif, <b>M.S. Shahid</b> , M. Khaleeq-ur-Rahman, Abdul Sattar, S. Anjum, Usman, S. Zaheer and R. S. Rawat	Radiation Effects & Defects in Solids	0.51	Online doi.org/10.1080/10420150.2014.972398
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111.	Pulsed laser deposition and characterization of multilayer metal-carbon thin films	K. Siraj, M. Khaleeq-ur-Rahman, <b>M.S. Rafique</b> , M.Z. Munawar, S. Naseem, S. Riaz	Applied Surface Science	2.711	Vol. 257, Issue 15, 15 May 2011, Pages 6445-6450 [ISSN: 0169-4332]
112.	Growth and characterization of Ni-DLC composite films using pulsed laser deposition Technique	Arslan Usma, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, K. Siraj, Safia Anjum, Hamid Latif, Taj. M. Khan, Mazhar mahmood	Journal Materials Chemistry and Physics	2.259	Vol. 126, Issue 3, 15 April 2011, Pages 649-654 [ISSN:0254 – 0584]
113.	Surface morphologic and structural analysis of IR irradiated silver	Anwar Latif, M. Khaleeq ur Rahman, <b>M. S. Rafique</b> , K. A. Bhatti	Physica B	1.319	Vol. 06, #09, 15 April 2011, pp 1713-1716 [ISSN:0921-4526]

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115.	Surface and Structural Investigations on Laser Irradiated P-type Silicon	A. Latif, <b>M.S. Rafique</b> , K. A. Bhatti & N. Mahmood	Radiation Effects & Defects in Solids	0.51	Vol.169 No.6, 506 – 512 (2014) [ISSN:1042-0150]
116.	Characterization of Platinum and Gold Ions Emitted from Laser Produced Plasmas using Solid State Nuclear Track Detectors	K. A. Bhatti, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, A. Latif, K. Hussain A. Hussain, K. T. Chaudhary, B. A. Tahir, R. Qindeel	Vacuum	1.858	Vol. 85, # 10, 25 March 2011, Pages 915-919 [ISSN: 0042-207X]
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118.	Effect of 4 MeV electron beam irradiation on carbon films	K. Siraj, M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , T. Nawaz	Nuclear Instruments and Methods in Physics Research B	1.12	Vol. 269, # 1, (2011) 1 January 2011, PP 53-56 [ISSN: 0168-583X]
119.	Surface topography of ultra short laser irradiated CaF <sub>2</sub>	Shazia Bashir, <b>M. S. Rafique</b> , W. Husinsky	Radiation effects and defects in solids	0.51	Vol. 166, # 1, 30–34(2011) [ISSN:1042-0150]
120.	Surface modifications of materials by repetitive laser pulses	Asma Hayat, Anwar Latif, <b>M. Shahid Rafique</b> , M. Khaleeq-ur-Rahman, K. A. Bhatti, Arslan Usman and Adeel Rehman	Radiation Effects & Defects in Solids	0.51	Vol. 167, No. 6, June 2012, 403–409 [ISSN:1042-0150]
121.	Laser shots impact on geometry of crater evolution at copper surface	A. Latif*, M. Khaleeq-ur-Rahman, <b>M.S. Rafique</b> , K. Siraj, K.A. Bhatti and A. Perveen	Radiation Effects & Defects in Solids	0.51	Vol. 167, No. 3, March 2012, 199–203 [ISSN:1042-0150]
122.	Microstructural Morphological Changes in Laser Irradiated Platinum	A. Latif *, M. Khaleeq-ur-Rahman, K. A. Bhatti, <b>M. S. Rafique</b> , Asma Hayat	Journal of Modern Physics,	0.79	Vol. 2, # 8, 875-884 August 2011 [ISSN: 2153-1196]
123.	Atomic force microscopy, Raman spectroscopy and non linear absorption properties of femtosecond laser irradiated CR-39	<b>M. S. Rafique</b> , Shazia Bashir, A. Ajami, Alison Horibo, B. Landl, W. Husinsky	Applied Physics A	1.704	Vol. 101, No. 3, 551-554, (2010) [ISSN: 0947-8396]

124.	IR and UV Irradiations on Ion bombarded polycrystalline silver	A.Latif, M. Khaleeq-Ur - Rahman, K.A. Bhatti, <b>M.S. Rafique</b> , Z. H. Rizvi,	Physica B: condensed matter physics	1.319	Vol. 405, Issue 20, (15-10-2010) 4250-4255 [ISSN: 0921-4526]
125.	Non linear absorption properties correlated with the surface and structural changes of ultra short pulse laser irradiated CR-39	<b>M. S. Rafique</b> , Shazia Bashir, A. Ajami, W. Husinsky	Applied Physics A	1.704	Vol. 100: 1183–1189, (2010) [ISSN: 0947-8396]
126.	Morphological and structural analysis of nano-structured gold thin film on Silicon by pulsed laser deposition technique	M. Khaleeq-ur-Rahman, K.A. Bhatti, <b>M.S. Rafique</b> , S. Anjum, A. Latif, M. Anjum, A. Ahsan, H. Ozair	Vacuum	1.858	Vol. 85, Issue 3 (24-9-2010) 353-357 [ISSN: 0042-207X]
127.	Magnetic and optical properties of amorphous NdFeCo thin films by pulsed laser deposition technique	S. Anjum, <b>M.Shahid Rafique</b> , M. Khaleeq-ur Rahman, . K. Siraj, A. Usman, H. Latif, K. A. Bhatti, S. Hussain and S. Naseem	Vacuum	1.858	Vol. 85, # 2 (20-8-2010) 126–130 [ISSN: 0042-207X]
128.	Investigations on hard X-rays from laser induced plasmas	M.Khaleeq-Ur-Rahman, A.Latif , K.A. Bhatti, <b>M.S. Rafique</b> , I. A. Shah	Vacuum	1.858	Vol. 85, Issue 2 (20-8-2010) 312-316 [ISSN: 0042-207X]
129.	Role of vacancies in transport and magnetic properties of nickel ferrite thin films	Safia Anjum, G. H. Jaffary, A. K. Rumaiz, <b>M. S. Rafique</b> , S. I Shah	J. Phys. D, Appl. Phys	2.721	Vol. 43, 265001, (2010) [ISSN <b>0021-8979</b> ]
130.	Radiation emission correlated with the evaluation of the current sheath from a deuterium plasma focus	<b>M. S. Rafique</b> , P. Lee, A. patran, R. S. Rawat, S. Lee	Journal of Fusion Energy	0.985	Vol. 29:295–304, ( 2010) [ISSN: 0164-0313]
131.	Characterization of plasma propulsion by Nd:YAG laser	K.A. Bhatti*, M. Khaleeq-ur-Rahman, H. Jamil, A. Latif, <b>M.S. Rafique</b>	Vacuum	1.858	Vol. 84, (2010) 1080–1084 [ISSN: 0042-207X]
132.	Electrons emission from laser induced metallic plasmas	K.A. Bhatti, M. Khaleeq-ur-Rahman, <b>M.S. Rafique</b> , K.T. Chaudhary, A. Latif	Vacuum	1.858	Vol. 84, # 9 (19-4-2010) 980–985 [ISSN: 0042-207X]
133.	Atomic force microscopy and Raman scattering studies of femtosecond laser-induced nanohillocks on CR-39	S. Bashir, <b>M. S. Rafique</b> , W. Husinsky, Alison Hobro , Bernhard Lendl	Nuclear Instruments and Methods in Physics Research B	1.12	Vol. 267 3606–3610, (2009) [ISSN: 0168-583X]
134.	Surface topography (nano-sized hillocks) and particle emission of metals, dielectrics and	S. Bashir, <b>M. S. Rafique</b> , W. Husinsky	Applied Surface Science	2.711	Vol. 255, 8372–8376 (2009)

	semiconductors during ultra-short-laser ablation: Towards a coherent understanding of relevant processes				[ISSN: 0169-4332]
135.	Investigation of silver plasma and surface morphology from a nanosecond laser ablation	M. Khaleeq-ur-Rahman, M.Z. Butt, Ishrat Mubeen, <b>M .S. Rafique</b>	Materials Chemistry and Physics	2.259	Vol. 114 (2009) 978 - 982 [ISSN:0254 - 0584]
136.	Laser Induced Plasma Plume imaging and Surface Morphology of Si	M. Khaleeq-ur-Rahman, K. Siraj, <b>M. S. Rafique</b> , K. A. Bhatti, A. Latif, H. Jamil, H. Basit	Nuclear Instruments and Methods in Physics Research B	1.12	Vol. 267 (2009) 1085 - 1088 [ISSN: 0168-583X]
137.	Influence of number of laser shots on laser induced microstructures on Ag and Cu targets	A. Latif, M.S. Anwar, M.A. Aleem, <b>M. S. Rafique</b> and M. Khaleeq-Ur-Rahman	Laser and Particle Beams	1.71	Vol. 27, 129 - 136 (2009) [ISSN: 0236-0346]
138.	Magnetic field effect on electron emission from plasma	M. Khaleeq-ur-Rahman, K.A. Bhatti, <b>M. S. Rafique</b> , A. Latif, K.T. Chaudhary	Vacuum	1.858	Vol. 83 (2009) 936- 941 [ISSN: 0042-207X]s
139.	Irradiation effects on copper	Anwar Latif, M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , K.A. Bhatti and M. Imran	Radiation Effects & Defects in Solids	0.51	Vol. 164, No.1, 68-72 [2009] [ISSN:1042-0150]
140.	Impact of Laser Produced X-rays on the Surface of Gold	Hamid Latif, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahaman, R. S. Rawat, Abdul Sattar, Shahzad Naseem, P. Lee	Applied Surface Science	2.711	Vol. 254, 7505-7511 [2008] [ISSN: 0169-4332]
141.	Characteristics of ion emitted from laser induced silver plasma	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Munazza Shakoor, K. A. Bhatti	Plasma Science and Technology	0.579	Vol. 10, 4, 450 - 454 [2008] [ISSN: 1009-0630]
142.	External Magnetic Field effect on plume images and X-ray emission from a Nanosecond Laser Produced Plasma	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Ibtisam Riaz, Rashid Jalil, Nazar Farid	Laser and Particle Beams	1.71	Vol. 26, 217 - 224, [2008] [ISSN: 0236-0346]
143.	Effect of external magnetic Field on the deposition of BaFe12O19	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Saif-ur-Rahman, Safia Anjum, M. Shahbaz Anwar, K. A. Bhatti, Saba Saeed and Saifullah Khan	Vacuum	1.858	Vol. 82, 1233-1237 [2008] [ISSN: 0042-207X]
144.	Electrical Diagnostics of Laser Ablated Platinum Plasma	K. A. Bhatti, M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , M.I.	Vacuum	1.858	Vol. 82 [2008] 1157-1161

		Shahzad, A. Latif and N. Parveen			[ISSN:0042-207X]
145.	Laser irradiation effects on gold	M. Khaleeq-ur-Rahman, K. A. Bhatti, <b>M. S. Rafique</b> , A. Latif, P. Lee, S. Mahmood	Laser Physics	1.032	Vol. 17, #.12, pp 1382-1388 [2007] [ISSN 1054-660X]
146.	XRD and SEM Analysis of laser irradiated Cadmium	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, T. Firdous, K. A. Bhatti, M. S. Anwar, M. Imran and Hamid Latif	Laser Physics	1.032	Vol. 17, No.9, 1138– 1145 [2007] [ISSN: 1054-660X]
147.	Laser produced copper ion energy spectrum employing Thomson parabola technique	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Aziz-ur-Rahman, Khurram Siraj Fayyaz Khan	Journal Laser Physics	1.032	Vol. 17, No.3, PP 282 – 285 [2007] [ISSN: 1054-660X]
148.	Laser ablation of ion irradiated CR-39	Shazia Bashir, <b>M. S. Rafique</b> , Faizan-ul-Haq	Laser and Particle Beams	1.71	Vol. 25 (1), 181-191, 2007 [ISSN: 0236-0346]
149.	Laser Induced Exfoliation Splashing in glass materials	M. Khaleeq-ur-Rahman, M. Shahbaz Anwer, <b>M. S. Rafique</b>	Nuclear Instruments and Methods in Physics Research B	1.12	Vol. 255, 338– 342 [2007] [ISSN: 0168-583X]
150.	Influence of 250KeV Ge ions Fluence on Electrical and Optical Properties of SiC	<b>M. S. Rafique</b> , N. Tahir	Vacuum	1.858	Vol. 81, 1062-1067, (2007) [ISSN:0042-207X]
151.	Theoretical Model for heat conduction in metals during interaction with ultra short laser pulses	M.S. Anwar, M. Anwar Latif, M. Iqbal, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Sofia Siddique	Laser and particle beam	1.71	Vol. 24, 347-353 (2006) [ISSN: 0236-0346]
152.	A magnetic electron analyzer for plasma focus electron energy distribution studies	A. Patran, L. C. Tan, D. Stoenescu, <b>M. S. Rafique</b> , R. S. Rawat, T. L. Tan, P. Lee, and S. Lee	Journal of Fusion Energy	0.985	Vol. 25, 1/2 , 57-66, (2006) [ISSN: 0164-0313]
153.	CO2 and Nd: YAG laser radiation induced damage in Al	Shazia Bashir, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Faizan-ul-Haq, B. R. Alvina	Fizika A	1.475	Vol. 15, 3, 181– 192 [2006] [ISSN: 13300008]
154.	Spectral study of the electron beam emitted from a 3 kJ plasma focus	A. Patran, L. C. Tan, D. Stoenescu, <b>M. S. Rafique</b> , R. S. Rawat, S. V. Springham, T. L. Tan, P. Lee, M. Zakaullah and S. Lee	Plasma Sources Science and Technology	3.591	Vol. 14, No. 3, 549–560, (2005) [ISSN 0963-0252]

155.	Angular distribution and forward peaking of laser produced plasma ions	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, Khurram Siraj, Muhammad Shahbaz Anwar, Faryaal Mahmood and Afshan Ashfaq	Laser and particle Beams	1.71	Vol. 23, No.2, P-131-135 [2005] [ISSN: 0236-0346]
156.	The Dependence of plasma focus neutron yield on the forward emitted fast deuteron population	<b>M. S. Rafique</b> , A. Patran, S. V. Springham	Czech. Journal of Physics	0.57	Vol. 52 D #7, D-156-160, (2002) [ISSN 0011-4626]
157.	Correlated Deuteron Energy Spectra and Neutron Yield for a 3 kJ Plasma Focus	S. V. Springham, S. Lee, <b>M. S. Rafique</b>	Plasma Physics and Control. Fusion	2.186	Vol. 42, 1023-1032, (2000) [ISSN 0741-3335]
<b>Total Impact factor 262.494</b>					

- **06** (Six) Research Papers have been published in the National Journals.

#### **LIST OF PUBLICATIONS IN LOCAL (NATIONAL) JOURNALS**

<b>Sr. No</b>	<b>Title of paper</b>	<b>Authors</b>	<b>Journal &amp; country</b>	<b>Volume / year of publication</b>
1	Production of Hard X-ray by Laser Produced Plasma	M. Khaleeq ur Rahman, A. Latif, K. A. Bhatti, <b>M. S. Rafique</b> & M. K. Yousaf	Science International	Vol. 25 (4), 687-691 (2013)
2	Investigations on Laser Induced Nickel and Titanium Plasmas	M. Khaleeq-ur-Rahman, A. Latif *, K.A. Bhatti, <b>M.S. Rafique</b> and M. K. Yousaf	Pakistan Journal of Engineering & applied sciences	Vol. 9, (28-33) (2011)
3	IR and Visible radiation from Laser induced silver Plasma	M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , Anwar Latif, K. A. Bhatti, Fayyaz Hussain	Pak. J. Engg. & Appl. Sci	Vol. 2, 38-41 (2008)
4	Deposition of Zinc Oxide Thin Film on Calcite (CaCO <sub>3</sub> ) Substrate via PLD at Room Temperature	M, Khaleeq-ur-Rahman, A. Sattar, <b>M. S. Rafique</b> , A. Usman	Pak. J. Engg. & Appl. Sci	Vol. 2, 88-90 (2008)
5	Time-resolved X-ray emission from laser induced silver plasma	Anwar Latif, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman	Science International	Vol. 18(2), 107-110, (2006)

6	Time resolved X – Rays Emission from Graphite Plasma	Anwar Latif, M. S. Rafique, M. Khaleeq-ur-Rahman, Irfan Younus	Science international	Vol.18(2),107-110 (2006) ISSN 1013-5316;
7	A study of Laser Induced Damages in Al with Tea CO2 and Nd:YAG Lasers	Shazia Bashir, A. R. Butt, <b>M.S. Rafique</b> , M. Khaleeq ur Rahman	Science International	Vol. 15(1) , 17-19 (2003)

**30** (Thirty) Research Papers have been published in International Conferences of UK, USA, etc.

### **LIST OF PUBLICATIONS IN INTERNATIONAL CONFERENCES**

<b>Sr. No</b>	<b>Title of paper</b>	<b>Authors</b>	<b>Journal &amp; country</b>	<b>Volume / year of publication</b>
1.	Radiation emission correlated with the evaluation of current sheath from a deuterium plasma focus	<b>M. S. Rafique</b> , P. Lee, A. Patran, R. S. Rawat and S. Lee	International workshop on plasma diagnostics and application, <b>Singapore</b>	180-187, July, (2009)
2.	Laser induced plasma diagnostics	M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , K. A. Bhatti, A. Latif	International workshop on plasma diagnostics and application, Singapore	180-187, July, (2009).
3.	Laser Analytical Probing of Ultra-Short-Laser-Matter Interaction	W. Husinsky, S. Bashir, <b>M. S. Rafique</b> , A. Ajami	Ejected Particles And Surface Topography 4th International Conference on Laser Probing-LAP2008, <b>JAPAN</b>	AIP Conference Proceedings, 1104, 79 - 89 (2009)
4.	X-Rays Emission from Laser Induced Copper Plasma under External Magnetic Field	M. Khaleeq ur Rahman, K. A. Bhatti, K. Siraj, A. Latif, <b>M.S. Rafique</b> , M. Shahzad and S. Sarfraz	Advanced Research in Physics & Engineering	[PP. 66 – 72] <b>[ISSN:1790-5117]</b>
5.	Shadow graphic Imaging of Femto second Laser Induced Ablation of Al	S. Bashir, <b>M. S. Rafique</b> , W. Husinsky	Junior Scientist Conf, Vienna Austria	213-214, (2008)
6.	Z-scan measurements of two-photon absorption for ultra short laser radiation	A. Ajami, <b>M. S. Rafique</b> , N. Pucher, S. Bashir, W. Husinsky, R. Liska, R. Inführ, H. Lichtenegger, J. Stampfl, S. Lüftenegger	Proc. SPIE-International Society for Optical Engineering, <b>Bulgaria</b>	7027, 70271H; 1 - 8. (2008)
7.	Nano-Hillock Formation on CaF <sub>2</sub> , Al and Au: A clue to ultra	W. Husinsky, S. Bashir, <b>M. S. Rafique</b>	Gordon Research Conference on Photo acoustic & Photo thermal Phenomena,	(2008)

	fast Laser-Matter Interaction		Photo induced Processes and Applications Ventura, <b>CA/USA</b>	
8.	Two –Photon Induced Photo polymerization- a Powerful tool for precise 3D Submicrofabrication	Niklas Pucher, Robert Infuhr, <b>M. S. Rafique</b> , Shazia Bashir, Valentin satzinger, Volker Schmidt, Wolfgang Husinsky, Helga Lichtenegger, Jurgen stampfl, Robert Liska	ASPM, <b>Graz Austria</b>	March, 2008
9.	Identification of the processes during ultra short laser matter interaction by analyzing ejected particles and surface topography	Shazia Bashir, <b>M. S. Rafique</b> , W. Husinsky	15th international school on quantum electronics (laser physics and applications) <b>Burgas, Bulgaria</b>	7, 2008
10.	Are there similarities between ion-surface interaction and ultra short laser-surface interaction? AFM studies of nano hillocks	Shazia Bashir, <b>M. S. Rafique</b> , W. Husinsky	International conference on ion surfaces, <b>South Africa</b>	ICACS 23, 77, 2008
11.	Processes during ultra short laser matter interaction probed by analyzing ejected particles and the surface topography	Shazia Bashir, W. Husinsky and <b>M. S. Rafique</b>	LAP, international conference on laser probing, <b>Nagoya, Japan</b>	66, 2008
12.	Investigation on Si ion using Faraday cup technique	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, K. A. Bhatti	International conference on current development of Atomic Molecular and optical Physics with Application, CDAMOP, <b>India</b>	85, 199, 2006
13.	Hydrogen ion implantation on Cadmium	<b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman, K. A. Bhatti, Saadia Naz	International conference on current development of Atomic Molecular and optical Physics with Application, CDAMOP, <b>India</b>	85, 61, 2006
14.	IR Irradiation Effects on Metals	Anwar Latif, Prof. Dr. M. Khaleeq ur Rahman, <b>M. Shahid Rafique</b> , Khursheed Aslam Bhatti	XXVI conference on Solid State Physics & Material Science & Workshop on Nano Technology , <b>Egypt</b>	[2006]
15.	<b>INVITED TALK</b> entitled “Radiations Effects on Polymers”	M. Khaleeq ur Rahman, <b>M. Shahid Rafique</b> , M. Shahbaz Anwar, Shabbir Hussain, Irfan Karamat & M. Imran	ATC/2005, Conference on Advanced Materials (CAM 2005) International Advanced Technology, Congress <b>Malaysia</b>	[PP. 1-8] <b>[2005]</b> <b>[ISSN: 983-3455-50-2]</b>



16.	Laser Ablation Phenomena in Metals	Anwar Latif, M. Khaleeq ur Rahman, <b>M. Shahid Rafique</b>	ATC/2005, Conference on Advanced Materials (CAM 2005) International Advanced Technology, Congress <b>Malaysia</b>	[PP. 154-160] <b>[2005]</b> <b>[ISSN: 983-3455-50-2]</b>
17.	Theoretical and Experimental Comparison of Splashing in deposition of Copper and Graphite Thin Films by PLD	M. Khaleeq ur Rahman, Muhammad Shahbaz Anwar, <b>M. S. Rafique</b> , H. Faiz and K. Siraj	SIPE International Symposium, Smart Materials Nano and Micro Smart Systems University of New South Walls Sydney <b>Australia</b>	5650, 328 <b>[2005]</b>
18.	Effect of CO <sub>2</sub> Laser irradiation on the track registration properties of CR-39	Shazia Shahid, <b>M. Shahid Rafique</b> , M. Khaleeq ur Rahman, I. M. Ghauri, Faizan ul Haq	Proceeding of 31 <sup>st</sup> European Physical Society Conference on Plasma Physics London Imperial College <b>London</b>	28B Paper # P5-045 <b>[2004]</b>
19.	Forward Peaking of Laser Produced Plasma Plume	<b>M. S. Rafique</b> , M. Khaleeq ur Rahman, Khurram Siraj, Shazia Shahid, Faryaal Mahmood, M. S. Anwar & Afshan Ashfaq	Proceeding of 31 <sup>st</sup> European Physical Society Conference on Plasma Physics London Imperial College <b>London</b>	ECA Vol. 28B Paper # P5-048 <b>[2004]</b>
20.	Theoretical and Experimental Comparison of splashing in Different Materials	M. Khaleeq ur Rahman, <b>M. S. Rafique</b> , Khurram Siraj, Shazia Shahid, M. S. Anwar & Hafsa Faiz	Proceeding of 31 <sup>st</sup> European Physical Society Conference on Plasma Physics London Imperial College <b>London</b>	ECA Vol. 28G Paper # P2-049 <b>[2004]</b>
21.	Study of Angular Distribution of Ions from Nd: YAG Laser Induced Plasma	<b>M. S. Rafique</b> , M. Khaleeq ur Rahman, Khurram Siraj, Rizwan Shafiq, Sadia Afzal, Mahboob ur Rehman, Faisal Shahzad	European Physical Society [EPS] held in Plasma Physics & Control Fusion <b>Petersburg Russia</b>	ECA, 27 3.84. <b>[2003]</b>
22.	Neutron Anisotropy and Soft X-ray Production from a Plasma Focus	<b>M. S. Rafique</b> , A. Serban, A. Patran and S. Lee	10th International Congress on Plasma Physics APS DPP/ICPP, P 132 <b>Quebec City, Canada</b>	2002
23.	Ion Energy Spectra and Neutron Emission from a Deuterium Plasma Focus	<b>M. S. Rafique</b> , S. V. Springham, A. Patran and S. Lee	Of 10th International Congress on Plasma Physics APS DPP/ICPP, P 135 <b>Quebec City, Canada</b>	2000
24.	Growth of TiC-surface Layer by Carbon Ion Implantation into Titanium Sample Using Repetitive Compact Plasma Focus Device	R. S. Rawat, P. Lee, M. H. Liu, T. White, <b>M. S. Rafique</b> , S. Lee	10th International Congress on Plasma Physics APS DPP/ICPP, P 137 <b>Quebec City, Canada</b>	2000

25.	Study of Plasma Dynamics in Radial Collapse and Post Radial Collapse Plasma Expansion Phases in Dense Plasma Focus Device Using Optical Streak Photography	R. S. Rawat, P. Lee, <b>M. S. Rafique</b> , S. Lee	10th International Congress on Plasma Physics APS DPP/ICPP, P 161, <b>Quebec City, Canada</b>	2000
26.	Optimization of neon and argon plasma temperature for soft X-ray output in plasma focus	Shan, M.H. Liu, P. Lee, <b>M. S. Rafique</b> , and S. Lee	10th International Congress on Plasma Physics APS DPP/ICPP, P173, <b>Quebec City, Canada</b>	2000
27.	Simulations with Conventional and gas-puff plasma focus devices	Shan, M.H. Liu, P. Lee, M.S. Rafique, and S. Lee	10th International Congress on Plasma Physics APS DPP/ICPP, P 174, <b>Quebec City, Canada</b>	2000
28.	Time-resolved Electron Beams and X-ray Emission from a Neon Plasma Focus	Serban, A. Patran, <b>M. S. Rafique</b> , S. Lee	Plasma Physics and Controlled Fusion	ECA, Vol. 24B, 480-483, (2000) <b>[ISSN 0741-3335]</b>
29.	Correlation of Neutron Anisotropy with Neutron Yield and Soft X-ray production from a Plasma Focus	A. Serban, <b>M. S. Rafique</b> , A. Patran, S. Lee	Plasma Physics and Controlled Fusion	ECA, Vol. 24B, 1677-1680 , (2000) <b>[ISSN 0741-3335]</b>
30.	Neutron Emission from the Plasma Focus	<b>M. S. Rafique</b> , A. Serban. P. Lee, S. Lee	Plasma Physics and Controlled Fusion	ECA, Vol. <b>23J</b> , 1249-1252 , 1999) <b>[ISSN 0741-3335]</b>

**17** (Seventeen) Research Papers have been published in Proceedings of National Conferences.

### **LIST OF PUBLICATIONS IN NATIONAL CONFERENCES**

<b>Sr. No</b>	<b>Title of paper</b>	<b>Authors</b>	<b>Journal &amp; country</b>	<b>Volume / year of publication</b>
1.	<b>INVITED TALK</b> "Growth of Magnetic Thin Film by PLD"	<b>M. Shahid Rafique</b>	International Spring School (ISS)	05-09 March, 2012
2.	Surface and structural characterization of NiO thin films deposited by pulsed laser deposition at different laser fluence	M. Khaleeq-ur-Rahman, A. Latif, <b>M. S. Rafiq</b> , K. A. Bhatti, K. Siraj, Naadia Akhtar	Proceedings of PIP International Conference	P 97 – 101 , (2011) <b>ISBN: 969-9013-00-3</b>
3.	Electron irradiation effects on structural and optical properties of ZnO thin films	K. Siraj, M. Khaleeq-ur-Rahman, K. Javaid, <b>M.S. Rafique</b> , M. A. Bodea, J. D. Pedarnig	Proceedings of PIP International Conference	P 102 – 105 , (2011) <b>ISBN: 969-9013-00-3</b>

4.	Growth and characterization of thin film of AlN deposited by PLD technique	M. Khaleeq-ur-Rahman, M. Z. Butt, T. Saeed, <b>M. S. Rafique</b> , K. A. Bhatti	Proceedings of PIP International Conference	P 55 – 58 , (2009) <b>ISBN: 969-9013-00-2</b>
5.	Nano-second laser irradiation of metallic pendulum	M. Khaleeq-ur-Rahman, K. A. Bhatti, H. Jamil, <b>M. S. Rafique</b> , A. Latif, s. Mehmood	Proceedings of PIP International Conference	P 112 – 116 (2009) <b>ISBN: 969-9013-00-2</b>
6.	Fabrication of gold nanoparticles by pulsed laser ablation	M. Khaleeq-ur-Rahman, K. Siraj, Saba Najeed Gondal, <b>M. S. Rafique</b>	Proceedings of PIP International Conference	P 163 – 167 (2009) <b>ISBN: 969-9013-00-2</b>
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12.	Spatial characteristics of laser induced Plasma expansion	M. Khaleeq-ur-Rahman, <b>M. S. Rafique</b> , M. Imran	Proceedings of PIP International Conference	45-54, 2006 <b>ISBN: 969-9013-00-1</b>
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15.	Laser Beam sputtering of Si at Different Wavelengths	Shazia Shahid, Khaliq Mahmood, Faizan-ul-Haq, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman and I. M. Ghauri	First International Conference on Frontiers of Advanced Engineering	September, 367-378 (2004).

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16.	Parametric study of Ions emitted from Nd: YAG laser –induced plasma	<b>M. S. Rafique</b> , Khurram Siraj, M.Khaleeq-ur-Rahman, Rizwana Shafiq, Sadia Afzaal	9th National Symposium on Frontiers in Physics	221-230, (2003).
17.	A comparative study of the changes in the electrical Conductivity of Al irradiated with CO2 and Nd:YAG	Shazia Shahid, A. R. Butt, <b>M. S. Rafique</b> , M. Khaleeq-ur-Rahman	9th National Symposium on Frontiers in Physics	231-233, (2003).

(b) **International Reports/Bulletin**

**06** (Six) International Reports/Bulletin have been published in, American bulletin of Physical Society and Romanian reports of Physics.

**LIST OF PUBLICATIONS IN INTERNATIONAL REPORTS/BULLETON**

<b>Sr. No</b>	<b>Title of paper</b>	<b>Authors</b>	<b>Journal &amp; country</b>	<b>Impact Factor</b>	<b>Volume / year of publication</b>
1.	Investigation of the relationship between neutron and X-ray emissions from a plasma focus	<b>M. S. Rafique</b> , A. Patran, A. Serban, V. Zoita	Romanian Reports in Physics		Vol. 55, Nos. 6-10/2002, p. 365
2.	Time-resolved features of the electron beam emission from a neon plasma focus	Patran, A. Serban, <b>M. S. Rafique</b>	Romanian Reports in Physics		Vol. 55, Nos.6-10/2002, p. 371
3.	On the relationship between neutron yield and deuteron spectra in a small plasma focus device	<b>M. S. Rafique</b> , S. V. Springham, A. Patran, V. Zoita	Romanian Reports in Physics		Vol. 55, Nos. 6-10/2002, p. 377
4.	Energy analysis of the Deuteron Beams generated in a Small Plasma Focus Device	M. S. Rafique, P. Lee, S. Lee, A. Patran	Romanian Reports in Physics		Vol. 55, Nos. 6-10/2002, p. 381
5.	Neutron Anisotropy and Soft X-ray Production from a Plasma Focus	<b>M. S. Rafique</b> , A. Serban, A. Patran and S. Lee	Bulletin of the American Physical Society		45, No. 7, October 2000, p. 149
6.	Ion Energy Spectra and Neutron Emission from a Deuterium Plasma Focus	<b>M. S. Rafique</b> , S. V. Springham, A. Patran and S. Lee	Bulletin of the American Physical Society		45, No. 7, October 2000, p. 147