

## Resume\*

1. **Name** : **Azher Majid Siddiqui**
2. **Present Position** : **Lecturer**
3. **Place of Work** : Department of Physics  
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### 4. Academic Record

B.Sc. Honours(Phys.) - 1988 - Osmania University, Hyderabad

M.Sc.(Phys.) - 1991 - Aligarh Muslim University, Aligarh

M.Phil (Phys.) - 1993 - School of Physics, University of Hyderabad, Hyderabad.

Title of dissertation: Pion-Muon Channeling in Crystals with Imperfections

Ph.D - 2000 - School of Physics, University of Hyderabad, Hyderabad.

Under the supervision of Prof Anand P Pathak

Title of Thesis: **Effects of Defects and Strain on Ion Channeling in Solids**

### 5. Total Research & Teaching Experience : 14 years

- I have been taking postgraduate and undergraduate theory and laboratory experiment classes (**Experimental Techniques for Characterization of Materials** for M.Sc. and **Optics and Structure of Matter** for the B.Sc. courses, 22 lectures per week) at Department of Physics, **Jamia Millia Islamia** (Central University), New Delhi since 2004.
- During last 2½ years in JMI, I was actively involved in running/maintaining the laboratory. Also, I have been instrumental in re-structuring and designing the syllabus of the course Experimental Techniques ..... for the M.Sc.

### 6. Publications :

- I have **30 Papers, all in International Journals/Proceedings/Reports** (20 in International Peer-Reviewed Journals, 1 Review Article in the proceedings of International Conference, + 2 articles as ICTP, Trieste Preprints + 4 articles in the proceedings of National Conference + 3 elsewhere {Please refer to the publications list}).

### 7. Member, Research Board of Advisors, American Biographical Institute, USA

### 8. Research Projects undertaken :

Co-Investigator in a UFUP project 37302 entitled Effects of SHI Irradiation on Conjugated Polymers, sponsored by Nuclear Science Centre, New Delhi.

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\* Updated on Friday the 3<sup>rd</sup> November, 2006

9. **Visits Abroad** :
- Participated in the International Workshop Charged and Neutral Particles Channeling Phenomena *Channeling 2004*, Istituto Nazionale di Fisica Nucleare (INFN) – Laboratori Nazionale di Frascati, Frascati (Roma) Italy, 2-6 November 2004
10. **Awards/Honours** :
- Selected as **category B speaker** under the **Theoretical Physics Seminar Circuit (TPSC) program** 1999-2000.
  - Invited Lecture at the Young Physicists Colloquium, Saha Institute of Nuclear Physics, Kolkatta, August 2001 (YPC 2001).
  - Invited Lecture at the *National Seminar on Physics of Materials*, Department of Physics, University of Jammu, Jammu, November 23-24 2004.
  - Vetted/Reviewed the Manuscripts Physics Textbooks for Class XI and XII (Urdu Version), organized by Department of Education in Science and Mathematics (DESM), National Council for Educational Research and Training (NCERT), New Delhi
  - Selected as a Resource Person for courses on **Accelerator Physics, Semiconductor Devices, Solid State Physics and Thermodynamics** in a Refresher Course organized by the *Institute of Advance Studies in Education*, Faculty of Education, Jamia Millia Islamia, New Delhi
11. **Scientist Associateships/Fellowships/ Scholarships**
- **Research Associate (RA), Nuclear Science Centre** from October 3, 2001 to January 15, 2004 (~ 2.5 years).
  - **Extended SRF/Research Associate (RA), Nuclear Science Centre** from May 1, 2000 to 30 September 2001 (~ 1.25 years).
  - **Senior Research Fellowship (SRF)**, Council of Scientific & Industrial Research, (CSIR), from March 1, 1997 to April 30, 1999.
  - **Junior Research Fellowship (JRF)**, IUC-DAEF Indore, from October 1993 to February 28, 1997.
12. **Field of Research Interest** :
- Ion-Solid Interaction. The basic interest is in the Utilization of Accelerators for Materials Science Research. I have carried out a series of experiments to characterize Semiconductor Heterostructures using Rutherford Backscattering Spectrometry (RBS)/Channeling. The other characterization technique that has been used as complimentary to RBS/C is High Resolution X-Ray Diffraction.
13. **Number of Research Scholars Presently Working** : **One**
14. **Secreterial Experience** : Involved in the Organizing of several National/International Conferences (21<sup>st</sup> International Conference on Nuclear Tracks in Solids, 20<sup>th</sup> International Conference on Atomic Collisions in Solids, 14<sup>th</sup> National Laser Symposium, etc.)
15. **Editorial Experience** : Actively participated in the editing of the Proceedings of the above events.

## Selected List of Publications

### A. Review Articles

- **Ion Beam Modifications and Characterisation of Semiconductor Heterostructures**, Azher M. Siddiqui, S. Dhamodaran, S.V. S. Nageseswara Rao, N. Sathish and Anand P. Pathak *Proc. International Conf. on Adv. in Surface Treatment: Research & Applications (ASTRA)*, Ed. T.S. Sudershan, G. Sunderarajan, G. Totten and S.V. Joshi, 633-641, 2004.

### B. Refereed Publications

1. **Double Screening Problem in Dechanneling by Point Defects**, Azher M. Siddiqui, V. Harikumar and A.P. Pathak, *Phys. Stat. Sol. B*, 185, 77-85, 1994.
2. **Scattering of Pions and Channeled Muons by Impurities in Single Crystals**, Azher M Siddiqui, V. Harikumar, L.N.S. Prakash Goteti and A.P. Pathak, *Modern Physics Letters (B)* 10, 745-751, 1996.
3. **Dechanneling by Ionized Point Defects in Solids: Double Screening Effects**, Azher M. Siddiqui, A. Kiran and A.P. Pathak, *Modern Physics Letters (B)*, 11, 1231-1239, 1996.
4. **Lattice Strain Measurement of Strained In<sub>0.1</sub>Ga<sub>0.9</sub>As/GaAs heterostructures by RBS and Channeling**, Azher M. Siddiqui, A.P. Pathak, B. Sundarvel, Amal K. Das, K. Sekar, B.N. Dev and B.M. Arora, *Nucl. Inst. And Meth. (B)*, 142, 387-392, 1998.
5. **Quantum Models For Dechanneling By Point Defects And Extended Defects**, A.P. Pathak, L.N.S. Prakash Goteti and Azher M. Siddiqui, American Institute of Physics (AIP), 475, 765-768, 1999, Conf. Proc CAARI 15.
6. **Defects and Strain Studies in Semiconductor Multilayers**, A.P. Pathak, S.V.S.N. Rao and Azher M. Siddiqui, *Nucl. Inst. And Meth. (B)*, 161-163, 488-491, 2000.
7. **Ion channeling, High Resolution X-Ray Diffraction and Raman Spectroscopy in Strained Quantum Wells**, Azher M. Siddiqui, S.V.S.N. Rao, A.P. Pathak, V.N. Kulkarni, R. Keshav Murthy, Eric Williams, Daryush Ila, Claudiu Muntele and B.M. Arora, *Journal of Applied Physics*, 90, 2824-2830, 2001.
8. **Ion Beam Studies in Strained Layer Superlattices**, A.P. Pathak, Azher M. Siddiqui, G.B.V.S. Lakshmi, S.V.S.N. Rao, S.K. Srivastava, S. Ghosh, D. Bhattacharya, D.K. Avasthi, Dipak K. Goswami, P. Satyam, B. N. Dev and A. Turos, *Nucl. Inst. And Meth. (B)*, 193, 319-323, 2002.
9. **Automation of Channeling Experiment for Lattice Strain Measurements Using High Energy Ion Beams**, S.V.S.N. Rao, D.K. Avasthi, E.T. Subramanyam, Kundan Singh, G.B.V.S. Lakshmi, S.A. Khan, Azher M. Siddiqui, A. Tripathi, S.K. Srivastava, Sarvesh Kumar, T. Srinivasan, Umesh Tiwari, S.K. Mehta, R. Muralidharan, R.K. Jain and A.P. Pathak, American Institute of Physics (AIP), 680, 94-97, 2003, Conf. Proc CAARI 17.
10. **Ion Beam Characterization and Engineering of Strain in Semiconductor Multi-layers**, S.V.S.N. Rao, A.P. Pathak, Azher M. Siddiqui, D.K. Avasthi, Claudiu Muntele, D. Ila, B.N. Dev, R. Muralidharan, F. Eichhorn, R. Groetzschel and A. Turos, *Nucl. Inst. and Meth. (B)*, 212, 442-450, 2003.
11. **Ion Beam Induced Modification of Lattice Strains in In<sub>0.1</sub>Ga<sub>0.9</sub>As/GaAs system**, S.V.S.N. Rao, A.K. Rajam, A.P. Pathak, Azher M. Siddiqui, D.K. Avasthi, T. Srinivasan, Umesh Tiwari, S.K. Mehta, R. Muralidharan and R.K. Jain, *Nucl. Inst. and Meth. (B)*, 212, 473-476, 2003.
12. **Development of a Large Area Two Dimensional Position Sensitive  $\Delta E$ -E Detector Telescope for Materials Analysis**, S.V.S.N. Rao, A. Kothari, G.B.V.S. Lakshmi, A. Tripathi, Azher M. Siddiqui, S.A. Khan, A.P. Pathak and D.K. Avasthi, *Nucl. Inst. and Meth. (B)*, 212, 545-550, 2003.
13. **Swift Heavy Ion Induced structural and optical modifications in LiF Thin Films**, M. Kumar, F. Singh, S.A. Khan, V. Baranwal, S. Kumar, D.C. Agarwal, Azher M. Siddiqui, A. Tripathi, A. Gupta, D.K. Avasthi, A.C. Pandey, *Journal of Physics (D): Appl. Phys.*, 38, 1-5, 2005.
14. **Ion Beam Irradiation and Characterization of GaAs Based Hetero-structures**, S. Dhamodaran, N. Satish, A.P. Pathak, S.V.S.N. Rao, Azher M. Siddiqui, S.A. Khan, D.K. Avasthi, T. Srinivasan, R. Muralidharan, C. Muntele, D. Ila, and D. Emfietzoglou, *Nucl. Inst. and Meth. (B)*, 242, 538-541, 2006.

15. **Optical Studies of SHI Irradiated Poly (o-Toluidine) – PVC blends**, G.B.V.S. Lakshmi, Vazid Ali, Azher M. Siddiqui, Pawan Kulriya and M. Zulfequar, (*Communicated*).
16. **60 MeV C<sup>5+</sup> ion irradiation effects on conducting poly (o-toluidine)-poly vinyl chloride blend films**, G.B.V.S. Lakshmi, Vazid Ali, Azher M. Siddiqui, Pawan Kulriya, M. Husain and M. Zulfequar, (*Communicated*).
17. **Electrical and spectroscopic Characterization of p-toluene sulphonic acid doped poly(o-toluidine) and poly(o-toluidine) blends**, G.B.V.S. Lakshmi, Vazid Ali, Pawan Kulriya, Azher M. Siddiqui, M.Husain and M. Zulfequar, (*Communicated*).

## References

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