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EDUCATION

Ph. D in Physics from Technological University of Munich, Germany
M. Tech in Materials Engineering from National Institute of Technology Karnataka, India
M. Sc in Physics from Andhra University, Waltair, India

RESEARCH and TEACHING EXPERIENCE

Postdoctoral Research Associate

Duration : 06-2009 to Present
Institute : Neutron Scattering Science Division, Spallation Neutron Source, Oak Ridge National Laboratory, Tennessee, USA
Nature of Work : (1) Diffusion of carbon dioxide and methane confined in nanoporous carbon aero gel. (2) Diffusion of water and ionic liquids in nano pores.
Mentor : Dr. Eugene Mamontov

Postdoctoral Research Associate

Duration : 10-2005 to 08-2008
University : I. Physikalisches Institut, University of Goettingen, Germany
Nature of Work : 1. (a) Investigating the thermo-physical properties of Si, Ge and Si-Ge alloy melts under the zero-gravity conditions (DLR, Germany) (b) on the ground by electrostatic levitation techniques (California Institute of Technology, USA).
2. Microscopic dynamics in the glass-forming metallic melts using quasielastic neutron scattering.
Mentor : Prof. Dr. Konrad Samwer

Senior Research Fellow

Duration : 02-2000 to 07-2001

Organisation : Laboratory for Electro-Optic Systems, Indian Space Research Organizations (ISRO), Bangalore, India.

Nature of Work : Worked on developing satellite camera systems and accessories.

Advisor : Dr. T. K. Alex

Visiting Scientist

Duration : 07-2001 to 02-2002

Institute : Walter Schottky Institut, Munich, Germany

Nature of Work : (1) Worked on Chemical beam epitaxy (CBE) of III/V compounds, (2) optical and scanning electron microscopic analysis of Chemical Beam Epitaxy grown samples and (3) photoluminescence measurements.

Advisor : Prof. Dr. Markus-Christian Amann

RESEARCH INTEREST

- Atomic dynamics in the glass-forming liquids
- Experimental verification of mode-coupling theory predictions
- Molecular dynamic simulation: atomic relaxation process in the simple liquids
- Liquids in nano-porous confinement: Atomic diffusion

PROFESSIONAL AFFILIATIONS

- Member, American Physical Society
- Member, Materials Research Society
- Member, Neutron Scattering Society of America

AWARDS and HONORS

- Graduate Aptitude Test in Engineering, India (1999)
- Senior Research Fellowship of Indian Space Research Organization, (2000)
- Visiting Scientist at Walter Schottky Institut, Munich, Germany (2001)
- Postdoctoral Research Fellowship, I. Physikalisches Institut, University of Goettingen, Germany (2005)
- Best research proposal for neutron scattering (awarded European neutron scattering society funding for experiments), Paul Scherrer Institut, Switzerland (2008)
- Awarded several weeks of beam time for neutron scattering experiments for my research proposals from Institut Laue-Langevin, France, FRM II Garching, Germany

and Paul Scherrer Institut, Switzerland.

- Award for flying the microgravity flight experiments conducted by German Space Agency (2007 and 2008). Also awarded several microgravity flights for my research proposals (2006, 2007 and 2008).
- Postdoctoral Research Fellowship, Oak Ridge National Laboratory (2009)

PUBLICATIONS

1. Atomic Diffusion in Liquid Ni, NiP, PdNiP and PdNiCuP Alloys, **S. M. Chathoth**, A. Meyer, M. M. Koza and F. Juranyi, **Appl. Phys. Lett.** **85**, 4881 (2004).
2. The Influence of Chemical Short Range Order on Atomic Diffusion in Al-Ni Melts, S.K. Das, J. Horbach, M.M. Koza, **S. M. Chathoth**, A. Meyer, **Appl. Phys. Lett.** **86**, 11918 (2005).
3. Fast and slow dynamics in PrNiCuAl melt as seen by neutron scattering. **S. M. Chathoth** and A. Podlesnyak, **J. Appl. Phys.** **103**, 013509 (2008).
4. Self-Diffusion in Al-Ni-Ce and Al-Ni-La Melts, A. Griesche, **S. M. Chathoth**, M. P. Macht, and A. Meyer, **High Temperature-High Pressure** **37**, 157 (2008).
5. Dynamic singularity in multicomponent glass forming metallic liquids. **S. M. Chathoth**, B. Damaschke, M. M. Koza and K. Samwer, **Phys. Rev. Lett.** **101**, 037801 (2008).
6. Thermo-physical properties of Si, Ge and Si-Ge alloy melts under microgravity conditions, **S. M. Chathoth**, B. Damaschke, K. Samwer and S. Schnieder, **Appl. Phys. Lett.** **93**, 071902 (2008).
7. Liquid Al₈₀Cu₂₀: Atomic Diffusion and Viscosity, Juergen Brillo, **S. M. Chathoth**, M. M. Koza and A. Meyer, **Appl. Phys. Lett.** **93**, 121905 (2008)
8. Dynamics in CuZrAlY: Interplay between packing density and viscosity, **S. M. Chathoth**, B. Damaschke, J. P. Embs and K. Samwer, **Appl. Phys. Lett.** **94**, 201926 (2009).
9. Influence of structural changes on self-diffusion in liquid Germanium, **S. M. Chathoth**, B. Damaschke, T. Unruh and K. Samwer., **Appl. Phys. Lett.** **94**, 221906 (2009)
10. Gaint changes in atomic dynamics on micro-alloying metallic melts, **S. M. Chathoth**, B. Damaschke, J. P. Embs and K. Samwer, **Appl. Phys. Letts.** **95**, 191907 (2009)
11. Thermo-physical properties of highly doped Si-Ge alloys, **S. M. Chathoth**, B. Damaschke, S. Schnieder and K. Samwer. **J. Appl. Phys.** **106**, 103524 (2009)
12. Diffusion and adsorption of methane confined in nano-porous carbon aerogel: a combined quasi-elastic and small-angle neutron scattering study, **S. M. Chathoth**, E. Mamontov, Y. B. Melnichenko and M. Zamponi, **Mesoporous and Microporous Materials**, **132**, 148 (2010)

BOOK CHAPTER

- *Microscopic and macroscopic dynamics*, D. Holland-Moritz, O. Heinen, **S. M. Chathoth**, A. I. Pommrich, S. Stüber, Th. Voigtmann, and A. Meyer, in: D. M. Herlach (ed.): *Phase Transformations in Multi-component Melts*, Wiley-VCH, Weinheim 2008, pp. 111-129

REVIEWING ACTIVITIES

- Applied Physics Letters
- Journal of Applied Physics

CONFERENCE PRESENTATIONS and INVITED TALKS

- Quasielastic Neutron Scattering on PdNiP Melts, **S. M. Chathoth**, German physical society meeting, November 28, 2002: Talk.
- Inelastic Neutron Scattering on Dense Metallic Liquids, **S. M. Chathoth**, German physical society meeting, Dresden 25. March 2003: Talk.
- Microscopic Dynamics and Mass Transport in Pd-Ni based Melts, **S. M. Chathoth**, International workshop on dynamics in viscous liquids, Munich, March, 14-17, 2004: Poster Presentation
- Structure and dynamics of Al-Ni melts, **S. M. Chathoth**, German neutron scattering conference, Dresden, Germany, Sept.1-4, 2004: Talk.
- Microscopic dynamics in dense liquids, I. Physikalisches Institut, University of Goettingen, July 19th 2005, Invited Talk
- Thermo-physical properties measurement under microgravity conditions, **S. M. Chathoth**, PRNSS College Mattanur, India; December 20th (2006): Invited Talk
- Thermophysical properties of Si, Ge and Si-Ge melt under microgravity, **S. M. Chathoth**, B. Damaschke, and K. Samwer, German physical society meeting, Regensburg 2007: Talk.
- Thermophysical properties measurement under microgravity conditions, **S. M. Chathoth**, M. G. College Iritty, India; December 17th (2007): Invited Talk
- Dynamic singularity in dense metallic glass forming liquids, **S. M. Chathoth**, B. Damaschke, and K. Samwer, German physical society meeting, Regensburg 2007: Poster presentation.
- Dynamics in glass-forming Pd₄₀Cu₄₀P₂₀ melts. **S. M. Chathoth**, B. Damaschke, M. M. Koza, R. Richert, and K. Samwer. German physical society meeting Berlin 2008: Poster Presentation

REFERES

- **Prof. Dr. Andreas Meyer**
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