

Bio-Data of Prof. S. Asokan

Name:

Sundarrajan Asokan

Date of Birth:

02-10-1960

Designation & Address:

MSIL Chair Professor,

Details of Academic Qualifications (Degree Onwards):

Examination	University/Institution	Class obtained	Year
B.Sc. (Physics)	Madras University, Madras	First	1981
M.Sc. (Materials Science)	College of Engineering Anna University, Guindy	First; First Rank	1983
Ph.D. (Physics)	Indian Institute of Science, Bangalore	Martin J Foster Gold Medal	1987

Details of Employment at IISc:

Year		Designation
From	To	
May 1986	October 1987	Research Associate
October 1987	September 1990	Scientific Officer
September 1990	March 1993	Lecturer (senior grade)
March 1993	March 1999	Assistant Professor
April 99	March 2005	Associate Professor
April 2005	Till Date	Professor

Academic Achievements/Awards/Honors:

- **I Rank, M.Sc. Materials Science, Anna University, Madras, 1983.**
- **The Martin J. Forster Gold Medal of the Indian Institute of Science, for the best Ph.D. thesis in the Division of Physical and Mathematical Sciences, for the year 1986-87**
- **Young Scientist Medal, Indian National Science Academy, 1990**
- Japanese Society for Promotion of Science Visiting Scientist, Dept. of Electronics and Computer Engineering, Gifu University Japan, 1991.
- **Young Scientist Research Award of the Department of Atomic Energy, India, for the year 1995.**
- INSA-Royal Society Visiting Scientist, Imperial College of Science, Technology and Medicine, London (1998)
- Visiting Scholar, Lyman Laboratory, Harvard University, Cambridge, MA, USA (1999).
- General Secretary, Instrument Society of India (2000-2004)
- Vice President, Instrument Society of India (2004-2008)
- **Elected Fellow of the National Academy of Sciences, 2008**
- **IISc Alumni Award for excellence in Research in Engineering (2018)**
- **MSIL Chair professorship, Indian Institute of Science (2018)**
- **President, Instrument Society of India (2020-)**

Contribution to Administration:

- Member, Council of Wardens, IISc
- Secretary, Graduate Aptitude Test in Engineering (GATE), IISc (2002-2004)
- Chairman, Graduate Aptitude Test in Engineering (GATE), IISc (2004-2007)
- Member & Chairman, Publications Committee (Annual Report, Court Report, Hand Book, Scheme of instruction, etc.)
- Chairman, Robert Bosch Centre for Cyber Physical Systems, IISc (2011 - 16)
- Chairman, Department of Instrumentation and Applied Physics, IISc (2016 onwards)
- Chairman, Contracts Management Committee, IISc (2017 onwards)

Other Contributions to the Institute

Served as

- Member, Admission Committee
- Member, Central Evaluation Committee
- Member, Negotiation Committee
- Chairman, Secretarial Staff evaluation Committee
- Member, Summer Programme Committee, KVPY
- Member, Contracts Management Committee
- Member, Editorial Board, Journal of Indian Institute of Science
- Member, Pre-Interview Familiarization Programme
- Member, shortlisting & selection committee of officers
- Member, Annual alumni meets

Other Noteworthy Contributions

- Based on the Fiber Bragg Grating (FBG) sensor technology developed in the lab, a start-up company, “Instrumentation and Scientific Technologies Pvt. Ltd.”, was incubated at SID; Served as a mentor for this company, which has developed indigenously, FBG interrogation systems for defense and aerospace applications.
- Functioned as independent director in a fiber optic instrumentation company, “Fiber Optika”, which developed in collaboration with IIT Delhi, an advanced kit (light runner) for conducting fiber optics based advanced experiments for UG and PG engineering curriculum.
- Also contributed in the development of FBG sensors for railways in collaboration with an IISc incubated company, Lab to Market.
- Undertaken many industry sponsored projects under the auspices of SID and CSIC. These include projects with Hindustan Aeronautics, Applied Materials, USA, Semiconductor Research Corporation, USA, Southern Electronics, Bangalore, etc.
- Contributed to the indigenous development instruments and sensors for the need of Defence and aerospace; These include the “Angular and Binocular Deviation measurement system, developed for HAL for HAWK aircrafts, underwater acoustic sensors for DRDO, FBG based Structural Health Monitoring system for ADA, FBG pressure sensor for ISRO, tilt measurement system for piles in open cast mines, etc.
- Contributed to the field of Instrumentation in the country by serving as the General Secretary, Vice President and President, of Instruments Society of India, etc.; Organized many National and two International Symposia on Instrumentation which were attended widely by academics, students and practicing engineers.
- Actively involved in the establishment of a translational research center at IISc, the Robert Bosch Centre for Cyber Physical Systems. From the projects funded by the center, three start-up companies have come up, in the areas of water purification, point of care diagnostic tools and endoscopic simulator for medical practitioners.

Research Students Guided

A. M.Sc.(Engg)

1. Mr. Ranajit Chatterjee, CEO, Kriyetic Japan, LLC, Tokyo, Japan (M.Sc. Engg)
2. Mr. Sumeet Yamdagni, Director, Instrumentation and Scientific Technologies Pvt. Ltd.
3. Dr. T.K. Mondal, PRS, IISc

B. Ph.D.

1. Dr. R. Ramakrishna (PRS, IISc., Retd.) (deceased)
2. Prof. Dr. K. V. Acharya, Physics Dept., Bangalore University (Retd), Bangalore Univ (Co-guide)
3. Dr. S. S. K. Titus, NPL, New Delhi
4. Prof. Dr. S. Prakash, Professor of Dept of Electronics and Communication, Saveetha University, Chennai, India
5. Prof. Dr. S. Murugavel, Department of Physics, University of Delhi
6. Prof. Dr. R. Aravinda Narayanan, BITS, Hyderabad
7. Dr. C. Nagarajamurthy, Principal Engineer, CISCO, CA, USA
8. Prof. Dr. Srirang Manohar, University of Twente, Netherlands
9. Dr. Ms. B. H. Sharmila, John F. Welch Technology Centre, GE, Bangalore
10. Prof. Dr. Zaheerudeen Saheb P, Al Ameen Science and Commerce College, Bangalore, Bangalore University (Co-guide)
11. Prof. Dr. J.T. Devaraju, Dept. of Electronic Science, Bangalore University, Bangalore, Bangalore University (Co-guide)
12. Prof. Dr. N. Manikandan, Department of Physics, VIT University, Chennai
13. Prof. Dr. M. Anbarasu, Department of Electrical Engineering, IIT, Madras
14. Prof. Dr. Pulok Pattanayak, Neotia University, Kolkatta
15. Dr. Kalaga Venu Madhav, Leibniz Institute of Astrophysics, Germany
16. Prof. Dr. Bhanuprasanth, Professor, Dept. of Medical Electronics, BMSCE, Bangalore
17. Dr. Ms. Aashia Rahman, Leibniz Institute of Astrophysics, Germany
18. Dr. B. R. Madhu, Gov. Sci. College, Chitradurga, Bangalore University (Co-Guide)
19. Prof. Dr. Chanda Sree Das, Professor, BMS College of Engineering, Bangalore
20. Dr. Srinivasa Rao, G. (Deceased)
21. Dr. A.S. Guruprasad, Robert Bosch Engineering India, Bangalore
22. Prof. Dr. K. P. Lakshmi, BMS College of Engineering, Bangalore.
23. Prof. Dr. G. Sreevidya, Presidency University, Bangalore
24. Dr. S. Tamilarasan, Technion University, Israel.
25. Prof. Dr. B. N. Shivananju, Department of Electrical Engineering, IIT, Madras
26. Dr. U. Sharath, LEOS, ISRO, Bangalore
27. Dr. S. Sridevi, Oxford University, UK
28. Prof. Dr. L. Lakshmi Rajeswara Rao, Geetam University, Visakapatnam
29. Dr. Shika Ambastha, CSIR, Anusandhan Bhavan, New Delhi
30. Prof. Dr. K. Chethna, Jyothi Institute of Technology, VTU, Bangalore
31. Dr. Saurabh Kumar, Robert Bosch Engineering India, Bangalore
32. Prof. Dr. Gayathri Sivakumar, VIT University, Chennai
33. Prof. Dr. S. Sridhar, VIT University, Vellore
34. Dr. Shweta Pant, RA, IISc
35. Dr. Tanujit Biswas, RA, IISc

36. Dr. Puspita Ray, RA (IISc) (Co-Guide)
37. Dr. Fazluddeen R, Prince Sultan Institute of Defense Studies and Research, Riyadh, Saudi Arabia
38. Dr. Anita Sure, Honeywell, Bangalore
39. Dr. Suma M N, LPSC, ISRO (Co-guide)
40. Dr. V. Chitnis, LPSC, ISRO (Co-guide)
41. Dr. Ompakash Parida (DLRL, Hyderabad)
42. Ms. B.S. Kavitha (Thesis submitted)
43. Mr. Jineesh Thomas, ARDC, HAL, (Thesis Submitted)
44. Mr. Sanjib Jana (Co-guide) (Thesis submitted)

Courses Taught Earlier

1. Semiconductor Physics
2. Properties of Electrical Engineering Materials
3. Special Purpose Instrumentation

Courses Taught Presently

Analytical Instrumentation

Current Research Interests:

1. Chalcogenide glasses-Alternating DSC; Photoconductivity; DC & AC conductivity
2. Electrical switching and phase change memories
3. High Pressure Instrumentation & Research
4. Thermal Wave Spectroscopy
5. Fiber Bragg Grating Sensors
6. All Optical Switching

Affiliation to Professional Societies

- Life Member - Instruments Society of India
- Life Member - Semiconductor Society of India

Editorial work for journals:

- ii) Member, Editorial Board, Journal of Indian Institute of Science
- iii) Chief Editor, J. Instrument Society of India
- iv) Member, Editorial Board, Int. J. of Instrumentation Technology

Refereeing for International Journals (Not Exhaustive)

- a) IEEE Transactions for Instrumentation & Measurements
- b) J. Physics & Chemistry of Solids
- c) J. Non-Crystalline Solids
- d) Physica
- e) Vacuum
- f) Thin Solid Films
- g) Radiation Measurements
- h) Materials Chemistry & Physics
- i) Solid State Communications

- j) J. Opto Electronics & Advanced Materials
- k) Bull. Materials Science
- l) Pramana
- m) Current Science
- n) Proceedings of Nat Acad of Sciences
- o) Applied Physics A
- p) J Mater Science
- q) IEEE sensors Journal
- r) Physica Status Solidi
- s) IEEE sensors

List of Patents

- 1) IPA1012004, 4990/CHE/201, A system and method to measure deviations and refractive index of objects, B. N. Shivananju, S. Yamdagni, R. M. Vasu, and S. Asokan; Applicant: Indian Institute of Science, Bangalore.
- 2) US Patent 2012 (US 2012/0176597 A1): Strain and Temperature Discrimination Using Fiber Bragg Gratings in a Cross-Wire Configuration. Inventors: Sundarrajan Asokan, Kalaga Venu Madhav, Aashia Rahman, Balaji Srinivasan; Assignee: Indian Institute of Science.
- 3) IPA 4989/CHE/2012, Apparatus and Method to Measure Blood Pressure using Fiber Bragg Grating Sensor, Inventors: Sundarrajan Asokan, Sharath Umesh, Sukreet Raju and Apoorva Girish; Applicant: Indian Institute of Science, Bangalore.
- 4) IPA 719/CHE/2013 Optical Biosensors having Enhanced Sensitivity, Inventors: K.S.Vasu, Sridevi. S, S. Asokan, N. Jayaraman, A.K. Sood; Applicant: Indian Institute of Science, Bangalore.
- 5) IPA 6111/CHE/2014, Optical Sensors, Methods and Applications Thereof, K.S.Vasu, S. Sridevi, S. Asokan, A.K. Sood; Applicant: Indian Institute of Science, Bangalore.
- 6) IPA 457/CHE/2014, Measurement of Arterial Compliance using Fiber Bragg Grating Pulse Recorder, Inventors: Sundarrajan Asokan, Sharath Umesh, Shwetha Chiplunkar; Applicant: Indian Institute of Science, Bangalore.
- 7) IPA 3368/CHE/2014, FBG-Based Device for Monitoring Seismic Vibrations, Inventors: Sundarrajan Asokan, Sharath Umesh, Thulasiraman Natarajan, Kusala Rajendran; Applicant: Indian Institute of Science, Bangalore.

- 8) IPA 3378/CHE/2014, Detection and Characterization of Fractures in Bore Wells using Single FBG Sensor Device, Inventors: Sundarrajan Asokan, Guru Prasad, M Shekar, C Prateek; Applicant: Indian Institute of Science, Bangalore.
- 9) PCT WO 2014/128590 A3, International Publication Date 28 August 2014, Optical Biosensors Having Enhanced Sensitivity, Inventors: K.S.Vasu, Sridevi. S, S. Asokan, N. Jayaraman, A.K. Sood; Applicant: Indian Institute of Science, Bangalore
- 10) IPA 6275/CHE/2015, A Real Time Fiber Bragg Grating Bio Sensor, Sai Shiva G, S. Asokan, U. Sharath, Rajesh Srinivasan; Applicant: Indian Institute of Science, Bangalore.
- 11) IPA 201841002316, Method and Device for Tracking Eye Movement of a Subject, Sharath Umesh, Shweta Pant, Srivani Padma Goggi, Sundarrajan Asokan, Sumitash Jana, Varsha Vasudevan And Aditya Murthy; Applicant: Indian Institute of Science, Bangalore.
- 12) IPA 201641021/2016, Spinal Needle Force Monitoring During Lumbar Puncture Using Fiber Bragg Grating Force Device; Applicant: Indian Institute of Science, Bangalore
- 13) IPA 201741040407/2017, Method and system for facilitating gait analysis", application filing date: 13/11/2017, Shweta Pant, Sharath Umesh, Sundarrajan Asokan; Applicant: Indian Institute of Science, Bangalore
- 14) IPA 201841025221/2018, A Plethysmograph Pulse Recorder, Sharath Umesh, Shweta Pant, Sundarrajan Asokan; Applicant: Indian Institute of Science, Bangalore.
- 15) A method and system for air brake force monitoring using FBG sensors, S K Sinha, Rao S Ganappa, S. Asokan, Suneetha Sebastian, R K Prabhu, J Ashlin, S Panchal, Indian Patent – Applied; Applicant: Lab to Market, SID, IISc
- 16) A system for temperature monitoring of an axle box using FBG sensors and the method thereof, S K Sinha, Rao S Ganappa, S. Asokan, Suneetha Sebastian, R K Prabhu, J Ashlin, S Panchal, Indian Patent- Applied; Applicant: Lab to Market, SID, IISc

Publications

Books Published/Edited

1. Advances in Instrumentation (New Age, India, 1996) (Editor)
2. Proceedings of International symposium on Non-Oxide and Novel Optical Glasses, Special Issue of J. Non-Cryst. Solids (Elsevier, USA, 2007) (Guest Editor)

List of Publications in International Journals & Books

1. *Electrical transport and high pressure studies on bulk $Ge_{20}Te_{80}$ glass*, G. Parthasarathy, A.K. Bandopadhyay, S. Asokan and E.S.R.Gopal, Pramana, Vol. 23, 1984, 17.
2. *Effect of pressure on the electrical resistivity of bulk $Ge_{20}Te_{80}$ glass*, G.Parthasarathy, A.K. Bandopadhyay, S. Asokan and E.S.R Gopal, Solid state Communication, Vol. 51, 1984, 195.
3. *Pressure induced electronic and structural transformations in bulk $GeSe_2$ glass*, M.V.N. Prasad, G. Parthasarathy, S. Asokan and E.S.R.Gopal, Pramana, Vol. 23, 1984, 31.
4. *Double glass transition and double stage crystallization in bulk $Si_{20}Te_{80}$ glass* S.Asokan, G. Parthasarathy and E.S.R.Gopal, J. Mater. Sci. Letts., Vol. 4, 1985, 502.
5. *Pressure induced polymorphous crystallization in bulk $Si_{20}Te_{80}$ glass*, S. Asokan, E.S.R. Gopal and G. Parthasarathy, J. Mater. Sci., Vol. 21, 1986, 625.
6. *Evidence for a new meta-stable crystalline compound in the Ge - Te system*, S. Asokan, G. Parthasarathy and E.S.R.Gopal, Mater. Res. Bull., Vol. 21, 1986, 217; 1141.
7. *Electrical transport and crystallization studies on glassy semiconducting $Si_{20} Te_{80}$ alloy at high pressures*, S. Asokan, G. Parthasarathy, G.N. Subbanna and E.S.R.Gopal, J. Phys. Chem. Solids, Vol. 47, 1986, 341.
8. *Crystallization studies on bulk Si_xTe_{100-x} glasses*, S. Asokan, G. Parthasarathy and E.S.R. Gopal, J. Non - Cryst. Solids, Vol. 86, (1986), 48.
9. *Crystallization of bulk Ge_xTe_{100-x} and Si_xTe_{100-x} glasses at high pressures and temperatures*, S. Asokan, G. Parthasarathy and E.S.R. Gopal, Collected Papers, XIV Int. Congress on glass, New-Delhi, 1986, p. 809.
10. *Effect of pressure on the electrical resistivity of bulk amorphous $Al_{23} Te_{77}$ alloys at various stages of crystallization*, G. Parthasarathy, R. Ramakrishna, S. Asokan and E.S.R. Gopal, J. Mater. Sci. Letts., Vol. 5, 1986, 809.
11. *Pressure induced polymorphous crystallization in bulk $Ge_{20}Te_{80}$ glasses*, G. Parthasarathy, S. Asokan, E.S.R. Gopal and A.K. Bandopadhyay, Physica, Vol. 139 & 140, 1986, 266.

12. *Crystallization studies on bulk $Ge_{20}Te_{80}$ glasses*, G. Parthasarathy, S. Asokan, M.V.N. Prasad and E.S.R.Gopal, J. Mater. Sci. Letts., Vol. 6, 1987, 75.
13. *Crystallization studies on bulk Ge_xTe_{100-x} glasses*, S.Asokan, G. Parthasarathy and E.S.R. Gopal, Int. J. Rapid Solidification, Vol. 2, 1987, 257.
14. *Electrical transport and thermal studies on bulk Tl_xSe_{100-x} glasses*, G. Parthasarathy G.M. Naik, S. Asokan, J. Mater. Sci. Letts., Vol. 6, 1987, 181.
15. *Preparation and characterization of bulk $Tl-Ge-Se$ glasses*, G.Parthasarathy, G.M. Naik, S. Asokan, J. Mater. Sci. Letts., Vol. 6, 1987, 214.
16. *Effect of pressure on the electrical resistivity of glassy oxygenated Se*, G. Parthasarathy, S. Asokan, J. Mater. Sci. Letts., Vol. 6, 1987, 313.
17. *An evidence for critical composition in IV-VI Chalcogenide glasses*, S. Asokan, G. Parthasarathy and E.S.R. Gopal, Phys. Rev. B, Vol. 35, 1987, 8269.
18. *Si-Te glasses: Relation between structure and physical properties*, S.Asokan, E.S.R.Gopal and G.Parthasarathy, Key Engineering Materials, Vol. 13-15, 1987, 119.
19. *Pressure induced phase transitions in amorphous Tl_xSe_{100-x} alloys*, G. Parthasarathy, G.M. Naik, S. Asokan and R.R. Krishna, Phil. Mag. Letters, Vol. 36, 1987, 191.
20. *High pressure studies on Ge-Te glasses: An evidence for a critical composition in IV-VI glassy system*, S. Asokan, G. Parthasarathy and E.S.R. Gopal, Phil. Mag. B, Vol. 57, 1988, 49.
21. *Metallization and crystallization of semi conducting amorphous $Ga_{20}Te_{80}$ alloy at high pressure*, G. Parthasarathy, S. Asokan, S.S.K. Titus and R. Ramakrishna, Phys. Letts., Vol. 131, 1988, 441.
22. *Optical absorption and thermal diffusivity in Ge_xTe_{100-x} glasses by photo acoustics technique*, K.N. Madusoodanan, J. Philip, G. Parthasarathy, S. Asokan and E.S.R.Gopal, Phil. Mag. B., Vol. 58, 1988, 123.
23. *Thermal diffusivity of As_xTe_{100-x} glasses measured by photoacoustic technique*, K.N. Madusoodanan, J. Philip, S. Asokan and E.S.R. Gopal, J. Mater. Sci. Letts., Vol. 7, 1988, 1333.
24. *Mechanical and chemical thresholds in IV-VI chalcogenide glasses*, S.Asokan, M.V.N. Prasad, G. Parthasarathy and E.S.R. Gopal, Phys. Rev. Letts., Vol. 62, 1989, 808.
25. *Pressure induced electronic and structural transformation in bulk semiconducting amorphous $Tl-Se$ alloys*, G. Parthasarathy, S. Asokan, G.M. Naik, in " High Pressure Science and Technology ", (Kiev, Naukova, 1989) p. 49.

26. *Photoacoustic investigation of the optical absorption and thermal diffusivity in $Si_x Te_{100-x}$ glasses*, K.N. Madusoodanan, J. Philip, S. Asokan, G. Parthasarathy and E.S.R.Gopal, *J. Non-Cryst. Solids*, Vol. 109, 1989, 255.
27. *Double glass transition and double stage crystallization in Te-based chalcogenide glasses*, S. Asokan and E.S.R.Gopal, *Rev. Solid State Sci.*, Vol. 3, 1989, 273.
28. *Photo acoustic investigation of glass transition in $As_x Te_{1-x}$ glasses*, K.N. Madusoodanan, K. Nandakumar, J. Philip, S.S.K.Titus, S. Asokan and E.S.R. Gopal, *Phys. Stat. Solidi*, Vol. 114A, 1989, 525.
29. *High pressure studies on $As_x Te_{100-x}$ glasses*, S. Seelakumar Titus, S. Asokan, G. Parthasarathy and E.S.R. Gopal, *Phil. Mag. B.*, Vol. 60, 1990, 553.
30. *Thermal conduction threshold in binary chalcogenide glasses*, J. Philip, K.N. Madusoodanan, E.S.R. Gopal and S. Asokan, in "Phonons 89", edited by S. Hunklinger, W. Ludwig and G. Weiss, (World Scientific, Singapore, 1990) p. 507.
31. *Photoacoustic study of glass transition in bulk $Ge_x Te_{1-x}$ and $Si_x Te_{1-x}$ glasses*, K.N. Madusoodanan, J.Philip, S.Asokan, G. Parthasarathy and E.S.R.Gopal, in "Photoacoustic and photothermal Phenomena", edited by J.C. Murphy, J.W. Maclachlan-Spicer, L. Aamodt, B.S.H. Royce, (Springer-Verlag, Berlin, 1990) p. 183.
32. *Pressure induced semiconductor - metal transition in Tl-Se layered semiconductor*, M.K. Rabinal, S. Asokan, M.O. Godazaev, N.T. Mamedov and E.S.R.Gopal, *Phys. Stat. Solidi B*, Vol. 167, 1991, K97.
33. *Anisotropic properties of the layered semiconductor InTe*, S. Pal, D.N. Bose, S. Asokan and E.S.R. Gopal, *Solid State Commun.*, Vol. 80, 1991, 753.
34. *Reversible photo induced changes of optical and electronic transport in organo poly silanes*, K. Shimakawa, K. Ishida, S. Asokan and O. Imagawa, *J. Non-Cryst. Solids*, Vol. 137, 1991, 915.
35. *Calorimetric studies on $Al_x Te_{100-x}$ glasses: Composition dependence of crystallization and a new compound in the Al-Te system*, R. Ramakrishna, S. Asokan, G. Parthasarathy, S.S.K. Titus and E.S.R. Gopal, *J. Non-Cryst. Solids*, Vol. 139, 1992, 129.
36. *High pressure studies of resistance anisotropy of the layered semiconducting InTe*, S. Asokan, E.S.R. Gopal, S. Pal and D.N. Bose, in "Recent Trends in High Pressure Research", edited by A.K. Singh, (Oxford-IBH, New Delhi, 1992) p. 459.
37. *A study of high-pressure behavior of bulk As_2X_3 glasses*, S.S.K. Titus, S. Asokan and E.S.R. Gopal, in "Recent Trends in High Pressure Research", edited by A.K. Singh, (Oxford-IBH, New Delhi, 1992) p. 477.

38. *High-pressure electrical resistivity studies on As-Te-Se glasses*, S.S.K.Titus, S. Asokan, R. Ramakrishna and E.S.R.Gopal, High Pressure Research, Vol. 10, 1992, 629.
39. *Thermal crystallization behavior of As-Te glasses*, S.S.K.Titus, S. Asokan, T.S. Panchapagesan and E.S.R.Gopal, Phys. Rev. B, Vol. 46, 1992, 14493.
40. *Compositional dependence of crystallization behavior of As-Te glasses*, S.S.K. Titus, S. Asokan and E.S.R.Gopal, Solid State Commun., Vol. 83, 1992, 745.
41. *High pressure electrical resistivity studies on Ga-Te glasses*, M.V.N.Prasad, S.Asokan, G.Parthasarathy, S.S.K.Titus and E.S.R.Gopal, High Pressure Research, Vol. 11, 1993, 195.
42. *Electrical resistivity studies on Ge-Se glasses at high pressures and low temperatures*, M.V.N. Prasad, S. Asokan, G. Parthasarathy, S.S.K. Titus and E.S.R.Gopal, Phys. Chem. Glasses, Vol. 34, 1993, 199.
43. *Effect of pressure on the electrical conductivity of $TlInX_2$ ($X = Se, Te$) layered semiconductors*, M.K. Rabinal, S.S.K. Titus, S. Asokan, E.S.R. Gopal, M.O. Godzaev and N.T. Mamedov, Phys. Stat. Solidi, Vol. B178, 1993, 403.
44. *Percolation phenomenon in glasses- The current Status*, E.S.R. Gopal, A. Srinivasan and S.Asokan, Ind. J. Pure & Appl. Phys., Vol. 31, 1993, 211.
45. *Electrical switching behavior and short range order As-Te glasses*, S.S.K.Titus, R.Chatterjee, S. Asokan and A. Kumar, Phys. Rev., Vol. B 48, 1993, 14560.
46. *Effect of selenium on the crystallization behavior of As-Te glasses*, S.S.K.Titus, S. Asokan, T.K. Mondal and E.S.R. Gopal, Solid State Commun., Vol. 89, 1994, 23.
47. *A PC based system for studying electrical switching in amorphous semiconductors*, R.Chatterjee, K.V. Acharya, S. Asokan and S.S.K. Titus, Rev. Sci. Instrum., Vol. 65, 1994, 2382.
48. *Electrical switching behavior of semiconducting aluminum telluride glasses*, S. Prakash, S. Asokan and D.B. Ghare, Semicond. Sci. Tech., Vol. 9, 1994, 1484.
49. *High pressure studies on AgI-Ag₂O-MoO₃ glasses*, B. Vaidyanathan, S. Asokan and K.J. Rao, Pramana, Vol. 43, 1994, 189.
50. *Current controlled negative resistance behavior and memory switching bulk As-Te-Se glasses*, R.Chatterjee, S.Asokan and S.S.K.Titus, J. Physics D, Appl. Physics, Vol. 27, 1994, 2624.
51. *Thermal crystallization studies on Ga-Te glasses*, M.V.N. Prasad, S. Asokan, G. Parthasarathy, S.S.K. Titus and E.S.R. Gopal, J. Thermal. Analysis, Vol. 44, 1995, 583.

52. *High pressure electrical resistivity measurements on Ge-Te-Se glasses*, S. Murugavel, K.V. Acharya and S. Asokan, High Pressure Research, Vol. 15, 1995, 3.
53. *Near ideal electrical switching in fast ion conducting glasses: Evidence for an electronic process with chemical origin*, B.Vaidyanathan, S.Asokan and K.J.Rao, Bull. Mater. Sci., Vol. 18, 1995, 301.
54. *Pressure induced metallization in Al-As-Te glasses*, S. Murugavel, K.V. Acharya and S. Asokan, J. Non-Cryst. Solids, Vol. 191, 1995, 327.
55. *Electrical switching in AgI based fast ion conducting glasses - possibility for newer applications*, B. Vaidyanathan, K.J. Rao, S. Prakash, S. Murugavel and S. Asokan, J. Appl. Phys., Vol. 78, 1995, 1358.
56. *Easily reversible memory switching in Ge-As-Te glasses*, S. Prakash, S. Asokan and D.B.Ghare, J. Phys. D. Appl., Physics, Vol. 29, 1996, 1.
57. *Crystallization studies on $Cu_xGe_{15}Te_{85-x}$ Glasses*, K.Ramesh, S. Asokan, K.S. Sangunni and E.S.R.Gopal, J. Phys. C. Condensed Matter, Vol. 8, 1996, 2755.
58. *Evidence concerning the effect of topology on electrical switching in chalcogenide network glasses*, R. Aravinda Narayanan, S. Asokan and A. Kumar, Phys. Rev. B., Vol. 54, 1996, 4413.
59. *Compositional dependence of crystallization behavior of Cu-Ge-Te glasses*, K.Ramesh, S. Asokan, K.S. Sangunni and E.S.R.Gopal, Phys. Chem. Glasses, Vol. 37, 1996, 217.
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