

Publications

1. Ajana Dutta, Diptikanta Swain, Digamber G Porob, Janaky Sunil, Chandrabhas Narayana and Tayur N Guru Row, Phase Transitions in a Vanthoffite-Type Compound, $\text{Na}_6\text{Zn}(\text{SO}_4)_4$: Insights from In Situ PXRD and Raman Spectroscopy *The Journal of Physical Chemistry A* (**accepted**) (2024) <https://doi.org/10.1021/acs.jpca.4c07378>
2. Ajinkya Anjekar, Nidhi Prahlad Rao, Rajapandian Paneerselvam, Kolleboyina Jayaramulu, **Chandrabhas Narayana**, Tatsuyuki Yamamoto and Hemanth Noothalapati, Deep Learning in Biomedical Applications of Raman Spectroscopy *Biomedical Imaging: Advances in Artificial Intelligence and Machine Learning* Edited by Ankur Gogoi and Nirmal Mazumder, published by Springer Nature Singapore, Chapter 9, pages 209-247 (2024)
3. K. R. Pradeep, Priyanka Jain, K. T. Suhas, Vadim Murzin, **Chandrabhas Narayana**, and Ranjani Viswanatha, Structure of Mixed Halide Perovskite Nanocrystals at Various Length Scales *The Journal of Physical Chemistry C* 128 (39), 16781(2024).
4. Akashdeep Sharma, Hyeon-Seung LeeChae-Min Yeom, Harikrishnan K. Surendran, **Chandrabhas Narayana**, Sunil Babu Eadi, Radek Zboril, Hi-Deok Lee, and Kolleboyina Jayaramulu, Tailoring Conductive MXene@MOF Interfaces: New Generation of Synapse Devices for Neuromorphic Computing *Chemistry of Materials* 36, 8466 (2024).
5. Manali Rathee, Harikrishnan K. Surendran, **Chandrabhas Narayana**, Rabindranath Lo Anurag Misra, and Kolleboyina Jayaramulu, Interfacial Chemistry of $\text{Ti}_3\text{C}_2\text{T}_x$ MXene in Aluminosilicate Geopolymers for Enhanced Mechanical Strength *ACS Applied Engineering Materials* 2, 2027 (2024).
6. Bidyut Mallick, Mainak Palit, Rajkumar Jana, Soumik Das, Anudeepa Ghosh, Janaky Sunil, Sujan Maity, Bikash Das, Tanima Kundu, **Chandrabhas Narayana**, Ayan Datta, and Subhadeep Datta, Pressure-induced insulator-to-metal transition in few-layer FePS_3 at 1.5 GPa *Phys. Rev. B* 109, 235417 (2024).
7. Bidesh Biswas, Sourav Rudra, Rahul Singh Rawat, Nidhi Pandey, Shashidhara Acharya, Anjana Joseph, Ashalatha Indiradevi Kamalasanan Pillai, Manisha Bansal, Muireann de h-Óra, Debendra Prasad Panda, Arka Bikash Dey, Florian Bertram, **Chandrabhas Narayana**, Judith MacManus-Driscoll, Tuhin Maity, Magnus Garbrecht, and Bivas Saha, Magnetic Stress-Driven Metal-Insulator Transition in Strongly Correlated Antiferromagnetic CrN *Phys. Rev. Lett.* 131, 126302 (2023).
8. V Rajaji, Raagya Arora, B Joseph, Subhajit Roychowdhury, Umesh V Waghmare, Kanishka Biswas, and **Chandrabhas Narayana**, Pressure-induced topological crystalline insulating phase in TlBiSe_2 : Experiments and theory *Physical Review B* 107, 205139 (2023).
9. Priyanka Jain, Gayatri Kumari, Meha Bhogra, Premakumar Yanda, Boby Joseph, Umesh V Waghmare, and **Chandrabhas Narayana**, Raman Evidence of Multiple Adsorption Sites and Structural Transformation in ZIF-4 *Inorganic Chemistry* 62, 7703 (2023).
10. Debanjan Bhowmik, and **Chandrabhas Narayana**, Far-Field Spectroscopy and Surface-Enhanced Raman Spectroscopy (SERS) Chapter 5, *Nanoscopy and Nanospectroscopy*, Publisher CRC Press, 97 (2023)
11. Janaky Sunil, **Chandrabhas Narayana**, Gayatri Kumari, and Kolleboyina Jayaramulu, Raman spectroscopy, an ideal tool for studying the physical properties and applications of metal-organic frameworks (MOFs) *Chemical Society Reviews* 52, 3397 (2023).
12. Sushmita Chandra, Janaky Sunil, Prabir Dutta, Koushik Pal, Manisha Samanta, Boby Joseph, **Chandrabhas Narayana**, and Kanishka Biswas, Evidence of pressure-induced

- multiple electronic topological transitions in BiSe Materials Today Physics 30, 100956 (2023).
13. Divya Chalapathi, Amrendra Kumar, Pratik Behera, Shijulal Nelson Sathi, Rajaram Swaminathan, and **Chandrabhas Narayana**, Insights on Aggregation of Hen Egg-White Lysozyme from Raman Spectroscopy and MD Simulations Molecules 27, 7122 (2022).
 14. V. Rajaji, F. J. Manjón, **Chandrabhas Narayana**, Pressure-induced topological and topological crystalline insulators J. Phys.: Condens. Matter 34, 423001 (2022).
 15. K. Kamali, S. Prasad, M. K. Sahoo, J. N. Behera, U. V. Waghmare, **Chandrabhas Narayana**, Unusual CO₂ Adsorption in ZIF-7: Insight from Raman Spectroscopy and Computational Studies Inorganic Chemistry 61, 11571 (2022).
 16. Bhawana Mali, Janaky Sunil, Harikrishnan S. Nair, **Chandrabhas Narayana**, and Suja Elizabeth Spin reorientation to a $\Gamma_3(C_x, F_y, A_z)$ configuration and anisotropic spin-phonon coupling in a Sm_{0.5}Y_{0.5}FeO₃ single crystal Phys. Rev. B 105, 214417 (2022).
 17. K. Kamali, B. Joseph, **Chandrabhas Narayana**, Stability of zeolitic imidazolate frameworks (ZIF-7) under high pressures and its implications on storage applications of ZIFs Journal of Solid State Chemistry 309, 122973 (2022).
 18. D. Bose, S. Aggarwal, D. Das, **Chandrabhas Narayana**, A. Chakrabarti, Erythroid spectrin binding modulates peroxidase and catalase activity of heme proteins IUBMB life 74 (5), 474 (2022).
 19. V. Bonu, G. Srinivas, V. P. Kumar, A. Joseph, **Chandrabhas Narayana**, H. C. Barshilia Temperature dependent erosion and Raman analyses of arc-deposited H free thick DLC coating on Cr/CrN coated plasma nitrided steel Surface and Coatings Technology 436, 128308 (2022).
 20. Bidesh Biswas, Sourjyadeep Chakraborty, Anjana Joseph, Shashidhara Acharya, Ashalatha Indiradevi Kamalasanan Pillai, **Chandrabhas Narayana**, Vijay Bhatia, Magnus Garbrecht, Bivas Saha, Secondary phase limited metal-insulator phase transition in chromium nitride thin films Acta Materialia 227, 117737 (2022).
 21. Pavitra N Shanbhag, Anjana Joseph, Fabio Orlandi, Pascal Manuel, R Mahendiran, Francois Fauth, **Chandrabhas Narayana**, A Sundaresan, CNR Rao Effects of Ga doping on the phase transitions of V₂O₃ Physical Review B 105, 064103 (2022).
 22. Priyanka Jain, Madhulika Mazumder, K. R. Pradeep, Ranjani Viswanatha, Swapan K. Pati, and **Chandrabhas Narayana**, Polaronic Signatures in Doped and Undoped Cesium Lead Halide Perovskite Nanocrystals through a Photoinduced Raman Mode ACS Applied Materials and Interfaces 14, 5567 (2022).
 23. M B Shoker, T Alhaddad, V J B Torres, A V Postnikov, A Polian, R Hajj Hussein, G K Pradhan, **Chandrabhas Narayana**, C Gardiennet, G Kervern, L Nataf, S Ravy, J-P Itié, K Strzałkowski, A Marasek and F Firszt, Exceptional phonon point versus free phonon coupling in Zn_{1-x}Be_xTe under pressure: an experimental and ab initio Raman study Scientific reports 12, 1 (2022).
 24. S Sen, D Chalapathi, J Targolli, **Chandrabhas Narayana**, SERS combined with PCR as a potent tool for detecting mutations: a case study of tomato plants RSC advances 12, 35929 (2022).
 25. Divya Bhutani, Sisir Maity, Shashank Chaturvedi, Divya Chalapathi, Umesh V Waghmare, **Chandrabhas Narayana**, Vinod C Prabhakaran, Eswaramoorthy Muthusamy Heterostructure from hetero mixture: unusual OER activity of FeP and CoP nanostructures on physical mixing Journal of Materials Chemistry A 10, 22354 (2022).

26. Swagatha Ghosh, Sayan Mondal, Keerti Yadav, Shantanu Aggarwal, Wayne F Schaefer, **Chandrabhas Narayana**, Ramaswamy Subramanian Modulation of biliverdin dynamics and spectral properties by Sandercyanin RSC advances 12, 20296 (2022).
27. Bhaskar Kakoty, Rishikesh Vengarathody, Srimayee Mukherji, Vinita Ahuja, Anjana Joseph, **Chandrabhas Narayana**, Sundaram Balasubramanian, Premkumar Senguttuvan Two for one: propylene carbonate co-solvent for high-performance aqueous zinc-ion batteries—remedies for persistent issues at both electrodes Journal of Materials Chemistry A 10, 12597 (2022).
28. Soumyabrata Roy, Debabrata Bagchi, Lakshay Dheer, Saurav Ch Sarma, Vincent Rajaji, **Chandrabhas Narayana**, Umesh V Waghmare, Sebastian C Peter Mechanistic insights into the promotional effect of Ni substitution in non-noble metal carbides for highly enhanced water splitting Applied Catalysis B: Environmental 298, 120560 (2021).
29. Venkata S Bhadram, Abhijit Sen, Janaky Sunil, Debendra Prasad Panda, Athinarayanan Sundaresan, **Chandrabhas Narayana**, Pressure-driven evolution of structural distortions in RCrO₃ perovskites: The curious case of LaCrO₃ Solid State Sciences 119, 106708 (2021).
30. K Kamali, B Joseph, V Rajaji, **Chandrabhas Narayana**, Pressure-Induced Loss of Long-Range Structural Order in MFM-300 (Al): An X-ray Diffraction and Raman Spectroscopic Study Journal of Physical Chemistry C 125, 15472-15478 (2021).
31. Supti Das, Dhanya Radhakrishnan, Venkata S Bhadram, **Chandrabhas Narayana**, Aninda J Bhattacharyya, Brillouin light scattering study of microscopic structure and dynamics in pyrrolidinium salt-based ionic liquids Solid State Ionics 363, 115603 (2021).
32. Subarna Das, P Singha, VA Kulbachinskii, VG Kytin, Gangadhar Das, S Janaky, AK Deb, Sudip Mukherjee, A Maignan, S Hebert, R Daou, **Chandrabhas Narayana**, S Bandyopadhyay, Aritra Banerjee, Sb₂Te₃/graphite nanocomposite: A comprehensive study of thermal conductivity Journal of Materiomics 7, 545 (2021).
33. Shantanu Aggarwal, Sayan Mondal, Soumik Siddhanta, Engleng Bharat, Easa Nagamalleswari, Valakunja Nagaraja, **Chandrabhas Narayana**, Divalent Ion-Induced Switch in DNA Cleavage of KpnI Endonuclease Probed through Surface-Enhanced Raman Spectroscopy Journal of Physical Chemistry B 125, 2241-2250 (2021).
34. Meenakshi Pahwa, Priyanka Jain, Nilanjana Das Saha, **Chandrabhas Narayana**, Sarit S Agasti, Interfacial tetrazine click chemistry mediated assembly of multifunctional colloidosomes Chemical Communications 57, 9534 (2021).
35. Kolleboyina Jayaramulu, Marilyn Esclance DMello, Kamali Kesavan, Andreas Schneemann, Michal Otyepka, Stepan Kment, **Chandrabhas Narayana**, Suresh Babu Kalidindi, Rajender S Varma, Radek Zboril, Roland A. Fischer, A multifunctional covalently linked graphene–MOF hybrid as an effective chemiresistive gas sensor Journal of Materials Chemistry A 9, 17434 (2021).
36. Le Fang, Chen Chen, A. Sundaresan, **Chandrabhas Narayana**, Nikita Ter-Oganessian, A. P. Pyatakov, Shixun Cao, Jincang Zhang, Wei Ren, The CdTiO₃/BaTiO₃ superlattice interface from first principles Nanoscale 13, 8506 (2021).
37. Amit Mallik, I Roy, D. Chalapathi, **Chandrabhas Narayana**, T. D. Das, A. Bhattacharya, S. Bera, S. Bhattacharya, Sriparna De, B. Das, D. Chattopadhyay, Single-step synthesis of reduced graphene oxide/SnO₂ nanocomposites for potential optical and semiconductor applications Materials Science and Engineering: B 264, 114938 (2021).
38. Kolleboyina Jayaramulu, Michael Horn, Andreas Schneemann, Haneesh Saini, Aristides Bakandritsos, Vaclav Ranc, Martin Petr, Vitalie Stavila, **Chandrabhas Narayana**, Błażej

- Scheibe, Štěpán Kment, Michal Otyepka, Nunzio Motta, Deepak Dubal, Radek Zbořil, Roland A. Fischer, Covalent Graphene-MOF Hybrids for High-Performance Asymmetric Supercapacitors *Advanced Materials* 33, 2004560 (2021).
39. MB Shoker, Olivier Pagès, VJB Torres, Alain Polian, J-P Itié, G. K. Pradhan, **Chandrabhas Narayana**, M. N. Rao, R. Rao, C. Gardiennet, G. Kervern, K. Strzałkowski, F. Firszt, Phonon-based partition of (ZnSe-like) semiconductor mixed crystals on approach to their pressure-induced structural transition *Scientific reports* 10, 1-11 (2020).
 40. Divya Chalapathi, Sreedevi Padmanabhan, Ravi Manjithaya, **Chandrabhas Narayana**, Surface-enhanced Raman spectroscopy as a tool for distinguishing extracellular vesicles under autophagic conditions: a marker for disease diagnostics *Journal of Physical Chemistry B* 124, 10952-10960 (2020).
 41. Christophe Bellin, Amit Pawbake, Lorenzo Paulatto, Keevin Béneut, Johan Biscaras, **Chandrabhas Narayana**, Alain Polian, Dattatray J Late, Abhay Shukla, Functional Monochalcogenides: Raman Evidence Linking Properties, Structure, and Metavalent Bonding *Physical Review Letters* 125, 145301 (2020).
 42. Achintya Bera, Anjali Singh, YA Sorb, Ramesh Naidu Jenjeti, DVS Muthu, S Sampath, **Chandrabhas Narayana**, UV Waghmare, AK Sood, Chemical ordering and pressure-induced isostructural and electronic transitions in MoSSe crystal *Physical Review B* 102, 014103 (2020).
 43. Venkataramana Bonu, V Praveen Kumar, **Chandrabhas Narayana**, Harish C Barshilia, Role of bonding nature on the temperature-dependent erosion behavior of solid materials: A detailed high-temperature Raman spectroscopic analysis *Journal of Applied Physics* 128, 015104 (2020).
 44. Soumyabrata Roy, Debabrata Bagchi, Vamseedhara Vemuri, Saurav Ch Sarma, Vinita Ahuja, Vincent Rajaji, **Chandrabhas Narayana**, Sebastian C Peter, Deconvolution of phase-size-strain effects in metal carbide nanocrystals for enhanced hydrogen evolution *Nanoscale* 12, 15414-15425 (2020).
 45. Diptikanta Swain, Gopal K. Pradhan, and **Chandrabhas Narayana**, Understanding the Mechanism of Ferroelectric Phase Transition in RbHSO₄: A High-Pressure Raman Investigation, *Inorganic Chemistry* 59 (12), 7960-7965 (2020).
 46. Ajana Dutta, Diptikanta Swain, Janaky Sunil, **Chandrabhas Narayana**, and Tayur N. Guru Row, Minerals to Functional Materials: Characterization of Structural Phase Transitions and Raman Analysis of a Superionic Phase in Na₆Co(SO₄)₄, *Inorganic Chemistry* 59, 8424-8431 (2020).
 47. Pradeep K. R, Debdipto Acharya, Priyanka Jain, Kushagra Gahlot, Anur Yadav, Andrea Camellini, Margherita Zavelani-Rossi, Giulio Cerullo, **Chandrabhas Narayana**, Shobhana Narasimhan, and Ranjani Viswanatha, Harvesting Delayed Fluorescence in Perovskite Nanocrystals Using Spin-Forbidden Mn d States, *ACS Energy Letters* 5, 353 - 359 (2019).
 48. Divya Chalapathi, Priyanka Jain and **Chandrabhas Narayana**, Phase Transitions in Materials, *Advances In The Chemistry And Physics Of Materials: Overview Of Selected Topics* 249 - 274 (2019).
 49. Sayan Mondal and **Chandrabhas Narayana**, Role of Explicit Solvation in the Simulation of Resonance Raman Spectra within Short-Time Dynamics Approximation, *Journal of Physical Chemistry B* 123, 8800 – 8813 (2019).

50. B Vishal, H Sharona, U Bhat, A Paul, MB Sreedhara, V Rajaji, SC Sarma, **Chandrabhas Narayana**, Sebastian C Peter, and Ranjan Datta, Growth of ReS₂ thin films by pulsed laser deposition, *Thin Solid Films* 685, 81 – 87 (2019).
51. M Kanagaraj, Amit Pawbake, Saurav Ch Sarma, V Rajaji, **Chandrabhas Narayana**, Marie-Aude Measson and Sebastian C Peter, Structural, magnetotransport, and Hall coefficient studies in ternary Bi₂Te₂Se, Sb₂Te₂Se and Bi₂Te₂S tetradymite topological insulating compounds, *Journal of Alloys and Compounds* 794, 195 – 202 (2019).
52. V. Rajaji, Raagya Arora, Saurav Ch. Sarma, B. Joseph, Sebastian C. Peter, Umesh V. Waghmare, and **Chandrabhas Narayana**, Phonon signatures of multiple topological quantum phase transitions in compressed TlBiS₂: A combined experimental and theoretical study, *Physical Review B* 99, 184109 (2019).
53. V Rajaji, S Janaky, Saurav Ch. Sarma, Sebastian C Peter and **Chandrabhas Narayana**, Pressure-induced topological and structural phase transitions in 1T-TiSe₂: a Raman study, *Journal of Physics: Condense Matter* 31, 65401 (2019).
54. Amit Pawbake, Christophe Bellin, Lorenzo Paulatto, Keevin Beneut, Johan Biscaras, **Chandrabhas Narayana**, Dattatray J. Late and Abhay Shukla, Pressure-Induced Phase Transitions in Germanium Telluride: Raman Signatures of Anharmonicity and Oxidation, *Physical Review Letters* 122, 145701 (2019).
55. Deepak P. Dubal, Kolleboyina Jayaramulu, Janaky Sunil, Stepan Kment, Pedro Gomez-Romero, **Chandrabhas Narayana**, Radek Zboril and Roland A. Fischer, Metal-Organic Framework (MOF) Derived Electrodes with Robust and Fast Lithium Storage for Li-Ion Hybrid Capacitors, *Advanced Functional Materials* 29, 190053 (2019).
56. Guillaume Fiquet, **Chandrabhas Narayana**, Christophe Bellin, Abhay Shukla, Imene Esteve, Arthur L. Ruoff, Gaston Garbarino, and Mohamed Mezouar, Structural phase transitions in aluminum above 320 GPa. *Comptes Rendus Geoscience* 351, 243 – 252 (2019).
57. Priyanka Jain, Robi Sankar Patra, Sridhar Rajaram, **Chandrabhas Narayana**, Designing dendronic-Raman markers for sensitive detection using surface-enhanced Raman spectroscopy *RSC advances* 9, 28222-28227 (2019).
58. Archana K. Munirathnappa, Debasmita Dwibedi, James Hester, Prabeer Barpanda, Diptikanta Swain, **Chandrabhas Narayana**, and Nalini G. Sundaram, In Situ Neutron Diffraction Studies of LiCe(WO₄)₂ Polymorphs: Phase Transition and Structure–Property Correlation, *Journal of Physical Chemistry C* 123, 1041 – 1049 (2018).
59. Pradeep P. Shanbogh, Diptikanta Swain, **Chandrabhas Narayana**, Ashok Rao, and Nalini G. Sundaram, Distinct Phase Formation of BiREWO₆ (RE = La–Yb) Nanoparticles by a One-Step Hydrothermal Synthesis and Their Photocatalytic Applications, *Crystal Growth and Design* 18, 1935 - 1939 (2018).
60. Jerin Susan John, D. Sajan, **Chandrabhas Narayana** and T.Sundius, Optical nonlinearity and charge transfer analysis of 4-[(E)-2-(2,4,6-Trinitrophenyl) ethylidene] benzonitrile adsorbed on silver nanoparticles: Computational and experimental investigations, *Optics & Laser Technology* 107, 454 – 467 (2018).
61. Jerin Susan John, D. Sajan, **Chandrabhas Narayana**, Nithin Joy and Reji Philip, Theoretical and experimental approach to the investigation of hyperpolarizability and charge transfer characteristics of NLO active 2',3,4,4',5-pentamethoxy chalcone with silver atoms adsorbed, *Optical Materials* 84, 409 – 421 (2018).

62. Pradeep P Shanbogh, Rajamani Raghunathan, Diptikanta Swain, Mikhail Feyngenson, Joerg Neufeind, Jasper Plaisier, **Chandrabhas Narayana**, Ashok Rao, and Nalini G Sundaram, Impact of Average, Local, and Electronic Structure on Visible Light Photocatalysis in Novel BiREWO₆ (RE = Eu and Tb) Nanomaterials, ACS Applied Materials and Interfaces 10, 35876 – 35887 (2018).
63. Prashant Kumar, Shantanu Aggarwal, **Chandrabhas Narayana**, and K. S. Narayan, Understanding the adhesion and optical properties of eutectic metal alloys for solution-processed electronics, Journal of Applied Physics 123, 083104 (2018).
64. Bharath Velaga, Pradeep P. Shanbogh, Diptikanta Swain, **Chandrabhas Narayana**, and Nalini G. Sundaram, High Surface Area SnO₂ – Ta₂O₅ Composite for Visible Light-driven Photocatalytic Degradation of an Organic Dye, Photochemistry and Photobiology 94, 633 – 640 (2018).
65. Karthik T., Dhanya Radhakrishnan, **Chandrabhas Narayana** and Saket Asthana, Nature of electric field driven ferroelectric phase transition in lead-free Na_{1/2}Bi_{1/2}TiO₃: In-situ temperature dependent ferroelectric hysteresis and Raman scattering studies, Journal of Alloys and Compounds 732, 945 – 951 (2018).
66. Prajith Karadan, Shantanu Aggarwal, Aji A. Anapparac, **Chandrabhas Narayana**, and Harish C. Barshilia, Tailored periodic Si nanopillar based architectures as highly sensitive universal SERS biosensing platform, Sensors and Actuators B: Chemical 254, 264 – 271 (2018).
67. V. Rajaji, Koushik Pal, Saurav Ch. Sarma, B. Joseph, Sebastian C.Peter, Umesh V. Waghmare, and **Chandrabhas Narayana**, Pressure-induced band inversion, electronic and structural phase transitions in InTe: A Combined Experimental and Theoretical Study, Physical Review B 97, 155158 (2018).
68. V. Rajaji, Utpal Dutta, P. C. Sreeparvathy, Saurav Ch. Sarma, Y.A. Sorb, B. Joseph, Subodha Sahoo, Sebastian C.Peter, V. Kanchana and **Chandrabhas Narayana**, Structural, vibrational and electrical properties of 1T-TiTe₂ under hydrostatic pressure: Experiments and Theory, Physical Review B 97, 085107 (2018).
69. Anindita Chakraborty, Subhajit Laha, Kesavan Kamali, **Chandrabhas Narayana**, Muthusamy Eswaramoorthy, and Tapas Kumar Maji, In Situ Growth of Self-Assembled ZIF-8–Aminoclay Nanocomposites with Enhanced Surface Area and CO₂ Uptake, Inorganic Chemistry 56, 9426 – 9435 (2017).
70. Christophe Bellin, Adrien Mafety, **Chandrabhas Narayana**, Paola Giura, Gwenaelle Rousse, Jean-Paul Itie, Alain Polian, A. Marco Saitta, and Abhay Shukla, Disordered-Order Phase Transition at High Pressure in Ammonium Fluoride, Physical Review B 96, 094110 (2017).
71. Rana Saha, R. Dhanya, Christophe Bellin, Keevin Béneut, **Chandrabhas Narayana**, A. Shukla, E. Suard, J. Rodriguez-Carvajal, and A. Sundaresan, Magnetostructural coupling and magnetodielectric effects in the A-site cation-ordered spinel LiFeCr₄O₈, Physical Review B 96, 214439 (2017).
72. Karthik T., Dhanya Radhakrishnan, **Chandrabhas Narayana** and Saket Asthana, Nature of electric field driven ferroelectric phase transition in lead-free Na_{1/2}Bi_{1/2}TiO₃: In-situ temperature dependent ferroelectric hysteresis and Raman scattering studies, Journal of Alloys and Compounds 732, 945 – 951 (2017).
73. Ramanpreet Kaur, Diptikanta Swain, Dipak Dutta, Kumar Brajesh, Priyank Singh, Aninda J. Bhattacharyya, Rajeev Ranjan, **Chandrabhas Narayana**, Jürg Hulliger and Tayur N. Guru

- Row, Proton Conduction in a Quaternary Organic Salt: Its Phase Behavior and Related Spectroscopic Studies, *Journal of Physical Chemistry C* 121, 18317 – 18325 (2017).
74. Anindita Chakraborty, Subhajit Laha, Kesavan Kamali, **Chandrabhas Narayana**, Muthusamy Eswaramoorthy, Tapas Kumar Maji In Situ Growth of Self-Assembled ZIF-8–Aminoclay Nanocomposites with Enhanced Surface Area and CO₂ Uptake, *Inorganic Chemistry* 56, 9426-9435 (2017).
 75. Swetha S. M. Bhat, Diptikanta Swain, Mikhail Feygenson, Joerg C. Neuefeind, Abhishek K. Mishra, Janardhan L. Hodala, Chandrabhas Narayana, Ganapati V. Shanbhag and Nalini G. Sundaram, Bi₄TaO₈Cl Nano-Photocatalyst: Influence of Local, Average, and Band Structure, *Inorganic Chemistry* 56, 5525 – 5536 (2017).
 76. Rajib Sahu, Dhanya Radhakrishnan, Badri Vishal, Devendra Singh Negi, Anomitra Sil, **Chandrabhas Narayana**, and Ranjan Datta, Substrate induced tuning of compressive strain and phonon modes in large area MoS₂ and WS₂ van der Waals epitaxial thin films, *Journal of Crystal Growth* 470, 51 – 57 (2017).
 77. Nabadyuti Barman, Priyank Singh, **Chandrabhas Narayana**, and K. B. R. Varma, Incipient ferroelectric to a possible ferroelectric transition in Te⁴⁺ doped calcium copper titanate (CaCu₃Ti₄O₁₂) ceramics at low temperature as evidenced by Raman and dielectric spectroscopy, *AIP Advances* 7, 35105 (2017).
 78. B. L. A. Prabhavathi Devi, K. Vijaya Lakshmi, K. N. Gangadhar, R. B. N. Prasad, P. S. Sai Prasad, B. Jagannadh, Partha P. Kundu, Gayatri Kumari, and **Chandrabhas Narayana**, Novel Heterogeneous SO₃Na-Carbon Transesterification Catalyst for the Production of Biodiesel, *Chemistry Select* 2, 1925 – 1931 (2017).
 79. Gangaiah Mettela, Yesudhas A. Sorb, Abhay Shukla, Christophe Bellin, Volodymyr Svitlyk, Mohamed Mezouar, **Chandrabhas Narayana** and Giridhar U. Kulkarni, Extraordinarily Stable Noncubic Structures of Au: A High-Pressure and-Temperature Study, *Chemistry of Materials* 29, 1485 – 1489 (2017).
 80. Meenakshi Rana, Nidhi Singla, Anirban Pathak, Dhanya R, **Chandrabhas Narayana**, and Papia Chowdhury, Vibrational-electronic properties of intra/intermolecular hydrogen-bonded heterocyclic dimer: An experimental and theoretical study of pyrrole-2-carboxaldehyde, *Vibrational Spectroscopy* 89, 16 – 25 (2017).
 81. Sudeshna Sen, Sneha Malunavar, Dhanya Radhakrishnan, **Chandrabhas Narayana**, Priscilla Soudant, Renaud Bouchet and Aninda J. Bhattacharyya, Non-trivial network is driven modifications of ion transport in an ionic liquid confined inside a polymer system, *Molecular Systems Design and Engineering* 1, 391 – 401 (2016).
 82. Prajith Karadan, Aji. A. Anappara, V. H. S. Moorthy, **Chandrabhas Narayana**, and Harish C. Barshilia, Improved broadband and omnidirectional light absorption in silicon nanopillars achieved through gradient mesoporosity induced leaky waveguide modulation, *RSC Advances* 6, 109157 – 109167 (2016).
 83. V. Rajaji, Pallavi S. Malavi, Sharma S. R. K. C. Yamijala, Y. A. Sorb, Utpal Dutta, Satya N. Guin, B. Joseph, Swapan K. Pati, S. Karmakar, Kanishka Biswas and **Chandrabhas Narayana**, Pressure-induced structural, electronic topological, and semiconductor to metal transition in AgBiSe₂, *Applied Physics Letters* 109, 171903 (2016).
 84. Bastola Narayan, Y. A. Sorb, B. Loukya, Atanu Samanta, Anatoliy Senyshyn, Ranjan Datta, Abhishek Kumar Singh, **Chandrabhas Narayana**, and Rajeev Ranjan, Interferroelectric transition as another manifestation of the intrinsic size effect in ferroelectrics, *Physical Review B* 94, 104104 (2016).

85. Sowmya Palimar, S. D. Kaushik, V. Siruguri, Diptikanta Swain, Alison E. Viegas, **Chandrabhas Narayana**, and Nalini G. Sundaram, Investigation of Ca substitution on the gas sensing potential of LaFeO₃ nanoparticles towards low concentration SO₂ gas, Dalton Transactions 45, 13547 – 13555 (2016).
86. Prajith Karadan, Siju John, Aji A. Anappara, **Chandrabhas Narayana** and Harish C. Barshilia, Evolution mechanism of mesoporous silicon nanopillars grown by metal-assisted chemical etching and nanosphere lithography: correlation of Raman spectra and red photoluminescence, Applied Physics A 122, 669 (2016).
87. R. S. Joshya, V. Rajaji, **Chandrabhas Narayana**, A. Mascarenhas, and R. N. Kini, Anharmonicity in light scattering by optical phonons in GaAs_{1-x}Bix, Journal of Applied Physics 119, 205706 (2016).
88. D. S. S. M. Uppu, M. M. Konai, U. Baul, P. Singh, T. K. Siersma, S. Samaddar, S. Vemperala, L.W. Hamoen, **Chandrabhas Narayana** and Jayanta Halder, Isosteric Substitution in Cationic-amphiphilic Polymers Reveals an Important Role for Hydrogen Bonding in Bacterial Membrane Interactions, Chemical Science 7, 4613 – 4623 (2016).
89. Dhanya Radhakrishnan and **Chandrabhas Narayana**, Guest dependent Brillouin and Raman scattering studies of Zeolitic Imidazolate Framework-8 (ZIF-8) under external pressure, Journal of Chemical Physics 144, 134704 (2016).
90. Soumyabrata Roy, Sumanta Sarkar, Jaysree Pan, Umesh V. Waghmare, Dhanya Radhakrishnan, **Chandrabhas Narayana**, and Sebastian C. Peter, Crystal Structure and Band Gap Engineering in Polyoxometalate-Based Inorganic–Organic Hybrids, Inorganic Chemistry 55, 3364 – 3377 (2016).
91. Soumik Siddhanta, Chao Zheng, **Chandrabhas Narayana**, and Ishan Barman, An impediment to random walk: trehalose microenvironment drives preferential endocytic uptake of plasmonic nanoparticles, Chemical Science 7, 3730 – 3736 (2016).
92. D. Karthigeyan, S. Surabhi, Pushpak Mizar, S. Soumik, Amrita Banerjee, Sarmistha H. Sinha, Dipak Dasgupta, **Chandrabhas Narayana**, and Tapas K. Kundu, A Dual Non-ATP Analogue Inhibitor of Aurora Kinases A and B, Derived from Resorcinol with a Mixed Mode of Inhibition, Chemical Biology and Drug Design 87, 958 – 967 (2016).
93. Sumanta Sarkar, Rohan Borah, A.L. Santhosha, R. Dhanya, **Chandrabhas Narayana**, Aninda J. Bhattacharyya, and Sebastian C. Peter, Heterostructure composites of rGO/GeO₂/PANI with enhanced performance for Li-ion battery anode material, Journal of Power Sources 306, 791 – 800 (2016).
94. Y. A. Sorb, V. Rajaji, P. Malavi, U. Subbarao, P. Halappa, S. Karmakar, Sebastian C. Peter, and **Chandrabhas Narayana**, Pressure-induced electronic topological transition in Sb₂S₃, Journal of Physics: Condense Matter 28, 015602 (2016).
95. H. Dicko, O. Pagès, R. Hajj Hussein, G. K. Pradhan, **Chandrabhas Narayana**, F. Firszt, A. Marasek, W. Paszkowicz, A. Maillard, C. Jobard, L. Broch and F. El Hajj Hassan, Near-forward/high-pressure-backward Raman study of Zn_{1-x}BexSe (x ~ 0.5) – evidence for percolation behavior of the long (Zn—Se) bond, Journal of Raman Spectroscopy 47, 357 – 367 (2016).
96. Gayatri Kumari, N. R. Patil, Venkat Srinu Bhadram, Ritesh Halder, Satyanarayana Bonakala, Tapas Kumar Maji, and **Chandrabhas Narayana**, Understanding guest and pressure induced porosity through structural transition in flexible interpenetrated MOF by Raman spectroscopy, Journal of Raman Spectroscopy 47 149 – 155 (2016).

97. Partha P Kundu and **Chandrabhas Narayana**, Conformational Analysis of Molecules: Combined Vibrational Spectroscopy and Density Functional Theory Study, Applications of Molecular Spectroscopy to Current Research in the Chemical and Biological Sciences Edited by Mark T. Stauffer, Publisher IntechOpen, Chapter 9, 189 – 205 (2016).
98. Varun Thakur, Soumik Siddhanta, **Chandrabhas Narayana** and S M Shivaprasad, Size and distribution control of surface plasmon enhanced photoluminescence and SERS signal in Ag-GaN hybrid systems, RSC Advances 5, 106832 – 106837 (2015).
99. Dhanya Radhakrishnan and **Chandrabhas Narayana**, Effect of pore occupancy on the acoustic properties of Zeolitic Imidazolate Framework (ZIF)-8: A Brillouin spectroscopic study at ambient and low temperatures, Journal of Chemical Physics 143, 234703 (2015).
100. Umesha Mogera, Dhanya Radhakrishnan, Rajashekhar Pujar, **Chandrabhas Narayana**, and Giridhar U. Kulkarni, Highly Decoupled Graphene Multilayers: Turbostraticity at its Best, Journal of Physical Chemistry Letters 6, 4437 – 4443 (2015).
101. S. Sharvani, Kishor Upadhyaya, Gayatri Kumari, **Chandrabhas Narayana**, and S. M. Shivaprasad, Nano-morphology induced additional Surface Plasmon Resonance enhancement of SERS sensitivity in Ag/GaN nanowall network, Nanotechnology 26, 465701 – 7pp (2015).
102. Ritu Gupta, Soumik Siddhanta, Gangaiah Mettela, Swati Chakraborty, **Chandrabhas Narayana** and G. U. Kulkarni, Solution-Processed Nanomanufacturing of SERS Substrates With Random Ag Nanoholes Exhibiting Uniformly High Enhancement Factor, RSC Advances 5, 85019 – 85027 (2015).
103. Partha P. Kundu, Gayatri Kumari, Arjun K. Chittoory, Sridhar Rajaram and **Chandrabhas Narayana**, Raman, IR, and DFT studies of the mechanism of Sodium binding to urea catalyst, Journal of Molecular Structure 1102, 267 – 274 (2015).
104. Gayatri Kumari, Jyothirmayee Kandula and **Chandrabhas Narayana**, How Far Can we Probe by SERS?, Journal of Physical Chemistry C 119, 20057 – 20064 (2015).
105. Soumik Siddhanta, Ishan Barman and **Chandrabhas Narayana**, Revealing the trehalose mediated inhibition of protein aggregation through lysozyme–silver nanoparticle interaction, Soft Matter 11, 7241 – 7249 (2015).
106. C. Kavitha and **Chandrabhas Narayana**, Comparative High-Pressure Raman Studies on Perfluorohexane and Perfluoroheptane, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 150, 247 – 256 (2015).
107. Ruchika Yadav, Diptikanta Swain, Partha Kundu, Harikrishnan S. Nair, **Chandrabhas Narayana**, and Suja Elizabeth, Dielectric and Raman investigations of structural phase transitions in $(\text{C}_2\text{H}_5\text{NH}_3)_2\text{CdCl}_4$, Physical Chemistry Chemical Physics 17, 12207 – 12214 (2015).
108. Sudha Joseph, S. Kumar, Venkata Srinu Bhadram and **Chandrabhas Narayana**, Stress states in individual Si particles of a cast Al-Si alloy: Micro-Raman analysis and microstructure based modeling, Journal of Alloys and Compounds 625, 296 – 308 (2015).
109. C. Kavitha, **Chandrabhas Narayana**, B.E. Ramachandran, Nandini Garg and Surinder M. Sharma, Acoustic phonon behavior of PbWO_4 and BaWO_4 probed by low-temperature Brillouin spectroscopy, Solid State Communications 202, 78 – 84 (2015).
110. Nitant Gupta, Disha Gupta, Shantanu Aggarwal, Soumik Siddhanta, **Chandrabhas Narayana**, and Harish C. Barshilia, Thermally Stable Plasmonic Nanocermet Grown on Microengineered Surfaces as Versatile Surface Enhanced Raman Spectroscopy Sensors for Multianalyte Detection, ACS Applied Materials and Interfaces 6, 22733 – 22742 (2014).

111. Rishi Maiti, Anupam Midya, **Chandrabhas Narayana**, and Samit Ray, Tunable optical properties of graphene oxide by tailoring the oxygen functionalities using infrared irradiation, *Nanotechnology* 25, 495704 (2014).
112. Swetha S M Bhat, Ashfia Huq, Diptikanta Swain, **Chandrabhas Narayana**, and Nalini Sundaram, Photoluminescence Tuning of $\text{Na}_{1-x}\text{K}_x\text{NdW}_2\text{O}_8$ ($0.0 \leq x \leq 0.7$) Nanoparticles; Synthesis, Crystal Structure and Raman Study, *Physical Chemistry Chemical Physics* 16, 18772 – 18780 (2014).
113. Kaustuv Manna, Venkata Srinu Bhadrani, Suja Elizabeth, **Chandrabhas Narayana**, and P. S. Anil Kumar, Octahedral distortion induced magnetic anomalies in $\text{LaMn}_{0.5}\text{Co}_{0.5}\text{O}_3$ single crystals, *Journal of Applied Physics* 116, 043903 – 043910 (2014).
114. C. Kavitha and **Chandrabhas Narayana**, Temperature-induced electron-phonon coupling behavior of AgGaS_2 probed by Brillouin spectroscopy, *Solid State Communications* 195, 10 – 15 (2014).
115. Umesha Mogera, Narendra Kurra, Dhanya Radhakrishnan, **Chandrabhas Narayana**, and Giridhar U. Kulkarni, Low cost, rapid synthesis of graphene on Ni: An efficient barrier for corrosion and thermal oxidation, *Carbon* 78, 384 – 391 (2014).
116. Dhanasekaran Karthigeyan, Soumik Siddhanta, Annavarapu Hari Kishore, Sathya S R R Perumal, Hans A Agren, Surabhi Sudevan, Akshay V. Bhat, Karanam Balasubramanyam, Rangappa Kanchugarakoppal Subbegowda, Tapas K Kundu and **Chandrabhas Narayana**, SERS and MD simulation studies of a kinase inhibitor demonstrate the emergence of a potential drug discovery tool, *Proceedings of the National Academy of Sciences (USA)* 111, 10416 – 10421 (2014).
117. T. R. Devidas, N. V. Chandra Shekar, C. S. Sundar, P. Chithaiah, Y. A. Sorb, V. S. Bhadrani, **Chandrabhas Narayana**, K. Pal, Umesh V. Waghmare, C. N. R. Rao, Pressure-induced structural changes and insulator-metal transition in layered bismuth triiodide, BiI_3 : A combined experimental and theoretical study, *Journal of Physics: Condensed Matter* 26, 275502 – 275510 (2014).
118. Venkat Srinu Bhadrani, Diptikanta Swain, R. Dhanya, Maurizio Polentarutti, Athinarayanan Sundaresan and **Chandrabhas Narayana**, Effect of pressure on octahedral distortions in RCrO_3 ($\text{R} = \text{Lu, Tb, Gd, Eu, Sm}$): The role of R-ion size and its implications, *Materials Research Express* 1, 026111 – 026123 (2014).
119. Partha P. Kundu, Tuhin Bhowmick, Swapna Ganduri, G.V. Pavan Kumar, Valakunja Nagaraja, and **Chandrabhas Narayana**, Allosteric Transition Induced by Mg^{2+} ion in a Transactivator monitored by SERS, *Journal of Physical Chemistry B* 118, 5322 – 5330 (2014).
120. Gangaiah Mettela, Soumik Siddhanta, **Chandrabhas Narayana**, and Giridhar U. Kulkarni, Nanocrystalline Ag micro flowers as versatile SERS platform, *Nanoscale* 6, 7480 – 7488 (2014).
121. Arjun Kumar Chittoory, Gayatri Kumari, Sudip Mohapatra, Partha P. Kundu, Tapas K. Maji, **Chandrabhas Narayana**, and Sridhar Rajaram, Conformational Change in a Urea Catalyst Induced by Sodium Cation and its Effect on Enantioselectivity of a Friedel-Crafts Reaction, *Tetrahedron* 70, 3459 – 3465 (2014).
122. Mohankrishna Dalvoy Vasudevarao, Pushpak Mizar, Sujata Kumari, Somnath Mandal, Soumik Siddhanta, Mahadeva M. M. Swamy, Stephanie Kaypee, Ravindra C. Kodihalli, Amrita Banerjee, **Chandrabhas Narayana**, Dipak Dasgupta, and Tapas K. Kundu,

- Naphthoquinones Mediated Inhibition of Lysine Acetyltransferase KAT3B/p300, Basis for Non-toxic Inhibitor Synthesis, *Journal of Biological Chemistry* 289, 7702 – 7717 (2014).
123. Swetha S. M. Bhat, Diptikanta Swain, **Chandrabhas Narayana**, Mikhail Feygenson, Joerg C Neufeind, and Nalini G Sundaram, Polymorphism in Photoluminescent KNdW₂O₈: Synthesis, Neutron Diffraction and Raman Study, *Crystal Growth and Design* 14, 835 – 843 (2014).
 124. Mohammed Arif, Dhanasekaran Karthigeyan, Soumik Siddhanta, G. V. Pavan Kumar, **Chandrabhas Narayana**, and Tapas K. Kundu, Analysis of Protein Acetyltransferase Structure-Function Relation by Surface-Enhanced Raman Scattering (SERS): A Tool to Screen and Characterize Small Molecule Modulators, *Methods in Molecular Biology* 981, 239 – 261 (2013).
 125. Tapas Ganguli, A K Sinha, **Chandrabhas Narayana**, Anuj Upadhyay, M N Singh, P Saxena, V K Dubey, I J Singh, Sendhil Raja, H S Vora and S K Deb, A high-pressure XRD setup at ADXRD beamline (BL-12) on Indus-2, *Journal of Physics: Conference Series* 425, 112001 (2013).
 126. Gayatri Kumari, Kolleboyina Jayaramulu, Tapas K. Maji and **Chandrabhas Narayana**, Temperature Induced Structural Transformations and Gas Adsorption in ZIF-8: A Raman Study, *Journal of Physical Chemistry A* 117, 11006 – 11012 (2013).
 127. Farid Mena, Bouzid Mena, Partha P Kundu, **Chandrabhas Narayana**, and Olga N Sharts, Physical Characterization of Blood Substitutes by Carbon-Fluorine Spectroscopy, *Pharmaceutica Analytica Acta* 4, 235-1 – 235-4 (2013).
 128. Nidhi Singla, Venkata Srinu Bhadrani, **Chandrabhas Narayana** and Papia Chowdhury, White Light Generation by Carbonyl Based Indole Derivatives Due to Proton Transfer: An Efficient Fluorescence Sensor, *Journal of Physical Chemistry A* 117, 2738 – 2752 (2013).
 129. Dipankar Saha, Rajeev Ranjan, Diptikanta Swain, **Chandrabhas Narayana**, and Tayur Guru Row, An unusual temperature induced isostructural phase transition in a scheelite, Li_{0.5}Ce_{0.5}MoO₄, *Dalton Transactions* 42, 7672 – 7678 (2013).
 130. Soumik Siddhanta, Dhanasekaran Karthigeyan, Partha P. Kundu, Tapas K. Kundu, and **Chandrabhas Narayana**, Surface-enhanced Raman spectroscopy of Aurora kinases: direct, ultrasensitive detection of autophosphorylation, *RSC Advances* 3, 4221 – 4230 (2013).
 131. Venkat Srinu Bhadrani, B. Rajeswaran, A. Sundaresan and **Chandrabhas Narayana**, Spin-phonon coupling in multiferroic RCrO₃ (R=Y, Lu, Gd, Eu, Sm): A Raman study, *Europhysics Letters* 101, 17008 (2013).
 132. Narendra Kurra, Venkata Srinu Bhadrani, **Chandrabhas Narayana** and Giridhar U Kulkarni, Few layer graphene to graphitic films: Infrared photoconductive versus bolometric response, *Nanoscale* 5, 381 – 389 (2013).
 133. S. Roopas Kiran, G. Santosh Babu, **Chandrabhas Narayana**, V.R.K. Murthy and V. Subramanian, Long range B-site cation ordering and Briet-Wigner-Fano line shape of A1g-like Raman mode in Nd_{1-x}Sm_x(Mg_{0.5}Ti_{0.5})O₃ microwave dielectric ceramics, *Materials Research Bulletin* 48, 194 – 199 (2013).
 134. Soumik Siddhanta, Varun Thakur, **Chandrabhas Narayana**, and S.M. Shivaprasad, A universal metal-semiconductor hybrid nanostructured SERS substrate for biosensing, *ACS Applied Materials and Interfaces* 4, 5807 – 5812 (2012).
 135. Partha P Kundu and **Chandrabhas Narayana**, Raman based imaging in biological application- a perspective, *Journal of Medical and Allied Sciences* 2, 41 – 48 (2012).

136. Narendra Kurra, Venkat Srinu Bhadram, **Chandrabhas Narayana**, and G.U. Kulkarni, Field effect transistors, and photodetectors based on nanocrystalline graphene derived from electron beam induced carbonaceous patterns, *Nanotechnology* 23, 425301 (2012).
137. Prakash Kanoo, Sandeep Kumar Reddy, Gayatri Kumari, Ritesh Haldar, **Chandrabhas Narayana**, Sundaram Balasubramanian, and Tapas Kumar Maji, Unusual room temperature CO₂ uptake in a fluorofunctionalized MOF: insight from Raman spectroscopy and theoretical studies, *Chemical Communications* 48, 8487 – 8489 (2012).
138. Kolleboyina Jayaramulu, Kasibhatta K. R. Datta, Mothika V. Suresh, Gayatri Kumari, Ranjan Datta, **Chandrabhas Narayana**, Muthusamy Eswaramoorthy and Tapas Kumar Maji, Honeycomb Porous Framework of Zinc(II): Effective Host for Palladium Nanoparticles for Efficient Three-Component (A₃) Coupling and Selective Gas Storage, *ChemPlusChem* 77, 743 – 747 (2012).
139. Gayatri Kumari and **Chandrabhas Narayana**, New Nano Architecture for SERS Applications, *Journal of Physical Chemistry Letters* 3, 1130 – 1135 (2012).
140. Soumik Siddhanta and Chandrabhas Narayana, Surface Enhanced Raman Spectroscopy of Proteins: Implications in Drug Designing, *Nanomaterials and Nanotechnology* 2, 1 – 13 (2012).
141. Narendra Kurra, Venkat Srinu Bhadram, **Chandrabhas Narayana**, and G.U. Kulkarni, Field effect transistors based on graphitized patterns of carbon contamination, *ACS Applied Materials and Interfaces* 4, 1030 – 1036 (2012).
142. Diptikanta Swain, Venkat Srinu Bhadram, Papia Chowdhury and **Chandrabhas Narayana**, Raman and X-ray Investigations of Ferroelectric Phase Transitions in NH₄HSO₄, *Journal of Physical Chemistry A* 116, 223 – 230 (2012).
143. S. N. Achary, S. J. Patwe, A. K. Tyagi, P. P. Bose, R. Mittal, A. B. Shinde, P. S. R. Krishna, S. L. Chaplot, **Chandrabhas Narayana**, G. K. Pradhan, S. Banik and S. K. Deb, Pressure and Temperature Dependent Structure Of Zircon Type ThGeO₄, *Journal of Physics: Conference Series* 377, 012031 (2012).
144. Gopal K Pradhan, **Chandrabhas Narayana**, S. K. Deb, O. Pagès, F. Firszt, W. Paszkowicz, Pressure Induced Metallization in Zn_{1-x}BexSe Ternary Mixed Crystals, *Journal of Physics: Conference Series* 377, 012019 (2012).
145. Harikrishnan S. Nair, Diptikanta Swain, Hariharan N., Shilpa Adiga, **Chandrabhas Narayana**, and Suja Elizabeth, Griffiths phase-like behavior and spin-phonon coupling in double perovskite Tb₂NiMnO₆, *Journal of Applied Physics* 110, 123919 – 123925 (2011).
146. Supti Das, Venkata Srinu Bhadram, Chandrabhas Narayana, and Aninda J. Bhattacharyya, Brillouin Scattering Investigation of Solvation Dynamics in Succinonitrile-Lithium Salt Plastic Crystalline Electrolytes, *Journal of Physical Chemistry B* 115, 12356 – 12361 (2011).
147. P. Mandal, Venkat Srinu Bhadram, Y. Sundarayya, **Chandrabhas Narayana**, A. Sundaresan and C.N.R. Rao, Spin-Reorientation, Ferroelectricity, and Magnetodielectric Effect in YFe(1-x)Mn(x)O(3) (0.1 ≤ x ≤ 0.40), *Physical Review Letters* 107, 137202 – 137205 (2011).
148. G.V. Pavan Kumar, N. Rangarajan, B. Sonia, P. Deepika, Nashiour Rohman and **Chandrabhas Narayana**, Metal-coated magnetic nanoparticles for surface-enhanced Raman scattering studies, *Bulletin of Materials Science* 34, 207 – 216 (2011).
149. Partha P. Kundu, G. V. Pavan Kumar, K. Mantelingu, Tapas K. Kundu and **Chandrabhas Narayana**, Raman and surface-enhanced Raman spectroscopic studies of specific, small

- molecule activator of histone acetyltransferase p300, *Journal of Molecular Structure* **999**, 10 – 15 (2011).
150. Gopal Krishna Pradhan, **Chandrabhas Narayana**, Mala Narasappaya Rao, Samrath Lal Chaplot, Olivier Pages and et al, The Phonon Percolation Scheme for Alloys: Extension to the Entire Lattice Dynamics and Pressure Dependence, *Japanese Journal of Applied Physics* **50**, 05FE02 (2011).
 151. Gopal K. Pradhan, Anil Kumar, S.K. Deb, Umesh V. Waghmare and **Chandrabhas Narayana**, Elastic and structural instability of cubic Sn_3N_4 and C_3N_4 under pressure, *Physical Review B* **82**, 144112 – 144115 (2010).
 152. Awadesh K. Mallik, S. R. Binu, L. N. Satapathy, **Chandrabhas Narayana**, Md. Motin Seikh, S. A. Shivashankar, and S. K. Biswas, Effect of substrate roughness on the growth of diamond by hot filament CVD, *Bulletin of Materials Science* **33**, 251 – 255 (2010).
 153. S. Murugavel, C. Vaid, Venkat Srinu Bhadrani and **Chandrabhas Narayana**, Ion Transport Mechanism in Glasses: Non-Arrhenius Conductivity and Non-Universal Features, *Journal of Physical Chemistry B* **114**, 13381 – 13385 (2010).
 154. M. Viswanathan, P.S. Anil Kumar, Venkata Srinu Bhadrani, **Chandrabhas Narayana**, A.K. Bera, and S.M. Yusuf, Influence of lattice distortion on the Curie temperature and spin-phonon coupling in $\text{LaMn}_{0.5}\text{Ca}_{0.5}\text{O}_3$, *Journal of Physics: Condense Matter* **22**, 346006 – 346013 (2010).
 155. Diptikanta Swain, Venkata Srinu Bhadrani, Venakataprasad Bhat, Gopal K. Pradhan, **Chandrabhas Narayana**, and C.N.R. Rao, Superionic phase transition in KHSO_4 : A temperature-dependent Raman investigation, *Journal of Physical Chemistry A* **114**, 10040 – 10044 (2010).
 156. Sudip Mohapatra, Soumik Siddhanta, D. Ravindar Kumar, **Chandrabhas Narayana**, and Tapas K. Maji, A facile bottom-up approach for fabricating multifunctional silver nanorods, *European Journal of Inorganic Chemistry* **31**, 4969 – 4974 (2010).
 157. T. Bhuvana, Anurag Kumar, Aditya Sood, Roger H. Gerzleski, Jianjun Hu, Venkata Srinu Bhadrani, **Chandrabhas Narayana**, and Timothy S. Fisher, Contiguous Petal-like Carbon Nanosheet Outgrowths from Graphite Fibers by Plasma CVD, *ACS Applied Materials and Interfaces* **2**, 644 – 648 (2010).
 158. Gopal K. Pradhan, **Chandrabhas Narayana**, O. Pagã's, A. Breidi, J. Souhabi, A. V. Postnikov, S. K. Deb, F. Firszt, W. Paszkowicz, A. Shukla and F. El Haj Hassan, Pressure-induced phonon freezing in the $\text{Zn}_{1-x}\text{Be}_x\text{Se}$ alloy: A study via the percolation model, *Physical Review B* **81**, 115207 – 115212 (2010).
 159. Gopal K. Pradhan, Diptikant Swain, T.N. Guru Row, and **Chandrabhas Narayana**, High-Temperature Phase Transition Studies in a Novel Fast Ion Conductor, $\text{Na}_2\text{Cd}(\text{SO}_4)_2$, Probed by Raman Spectroscopy, *Journal of Physical Chemistry A* **113**, 1505 – 1507 (2009).
 160. R.V.K. Mangalam, **Chandrabhas Narayana**, and A. Sundaresan, Pressure-dependent phase transition in the ordered $\text{BaBi}_{0.7}\text{Nb}_{0.3}\text{O}_3$ perovskite, *High-Pressure Research* **29**, 272 – 277 (2009).
 161. Vishnu Shankar, Saroj L. Samal, Gopal K. Pradhan, **Chandrabhas Narayana**, and Ashok K. Ganguli, Nanocrystalline NaNbO_3 and NaTaO_3 : Rietveld studies, Raman spectroscopy, and dielectric properties, *Solid State Sciences* **11**, 562 – 569 (2009).
 162. **Chandrabhas Narayana**, R. G. Greene, and Arthur L. Ruoff, Studies on silane to 70 GPa, *Journal of Physics: Conference Series* **121**, 042019 – 042023 (2008).

163. G. V. Pavan Kumar, R. Selvi, H. Kishore, T. K. Kundu and **Chandrabhas Narayana**, Surface-enhanced Raman spectroscopic studies of coactivator-associated arginine methyltransferase, *Journal of Physical Chemistry B* **112**, 6703 – 6707 (2008).
164. R. V. K. Mangalam, Gopal K. Pradhan, **Chandrabhas Narayana**, and A. Sundaresan, Spin state transition in ferromagnet $\text{Sr}_{0.9}\text{Ce}_{0.1}\text{CoO}_{2.85}$, *Solid State Communications* **146**, 110 – 114 (2008).
165. G. V. Pavan Kumar and **Chandrabhas Narayana**, Adapting a Fluorescence Microscope to Perform Surface Enhanced Raman Spectroscopy, *Current Science* **93**, 778 – 781 (2007).
166. C. Subramaniam, T. S. Sreeprasad, T. Pradeep, G. V. Pavan Kumar, **Chandrabhas Narayana**, T. Yajima, Y. Sugawara, H. Tanaka, T. Ogawa, and J. Chakrabarti, Metal-semiconductor transition induced visible fluorescence from single-walled carbon nanotube-noble metal nanoparticle composites, *Physical Review Letters* **99**, 167404 – 167407 (2007).
167. K. Mantelingu, B. A. Ashok Reddy, V. Swaminathan, A. Hari Kishore, N. B. Siddappa, G. Nagashankar, G. V. Pavan Kumar, N. Natesh, S. Roy, P. P. Sadhale, Udaykumar Ranga, **Chandrabhas Narayana**, and Tapas K. Kundu, Nonspecific to specific HATs off: Alters global gene expression and repress HIV multiplication, *Chemistry, and Biology* **14**, 645 – 657 (2007).
168. K. Mantelingu, A. Hari Kishore, K. Balasubramanyam, G.V. Pavan Kumar, M. Altaf, S. Nanjunda Swamy, Ruthrotha Selvi, Chandrima Das, **Chandrabhas Narayana**, K.S. Rangappa and Tapas K. Kundu, Activation of p300 histone acetyltransferase by small molecules altering enzyme structure: probed by surfaced enhanced Raman spectroscopy, *Journal of Physical Chemistry B* **111**, 4527 – 4534 (2007).
169. G. Kavitha and **Chandrabhas Narayana**, Pressure-induced structural transitions in n-Pentane: A Raman study, *Journal of Physical Chemistry B* **111**, 7003 – 7008 (2007).
170. T. Bhuvana, G. V. Pavan Kumar, G. U. Kulkarni, and **Chandrabhas Narayana**, Carbon assisted electroless gold for surface-enhanced Raman scattering studies, *Journal of Physical Chemistry C* **111**, 6700 – 6705 (2007).
171. T. Bhuvana, G. V. Pavan Kumar, **Chandrabhas Narayana**, and G. U. Kulkarni, Nanogranular Au films deposited on carbon-covered Si substrates for enhanced optical reflectivity and Raman scattering, *Nanotechnology* **18**, 145702 – 145708 (2007).
172. G. V. Pavan Kumar, S. Sruthi, B. Vibha, B. A. Ashok Reddy, T. K. Kundu, and **Chandrabhas Narayana**, Hot spots in Ag core-Au shell nanoparticles potent for surface-enhanced Raman scattering studies of biomolecules, *Journal of Physical Chemistry C* **111**, 4388 – 4392 (2007).
173. Neena Susan John, G. U. Kulkarni, Ayan Datta, Swapan Pati, F. Komori, G. Kavitha, **Chandrabhas Narayana**, and M. K. Sanyal, Magnetic Interactions in Nickel Alkanethiolates, *Journal of Physical Chemistry C (Letters)* **111**, 1868 – 1870 (2007).
174. Harshad B. Ghodke, Kasinath Vignesh, G. V. Pavan Kumar, Ramya Krishnan, **Chandrabhas Narayana**, and Yamuna Krishnan, The I-tetraplex building block: Rational Design and Controlled Fabrication of robust 1D DNA Scaffolds via non-Watson Crick self-assembly, *Angewandte Chemie (International Edition)* **46**, 1 – 5 (2007).
175. G. Kavitha and **Chandrabhas Narayana**, Raman spectroscopic investigations of pressure-induced phase transitions in n-hexane, *Journal of Physical Chemistry B* **111**, 14130 – 14135 (2007).
176. Mohammed Arif, G. V. Pavan Kumar, **Chandrabhas Narayana**, and T. K. Kundu, Autoacetylation Induced Specific Structural Changes in Histone Acetyltransferase Domain

- of p300: Probed by Surface-Enhanced Raman Spectroscopy, *Journal of Physical Chemistry B (Letters)* **111**, 11877 – 11879 (2007).
177. G. V. Pavan Kumar, B. A. Ashok Reddy, Md. Arif, T. K. Kundu and **Chandrabhas Narayana**, Surface-Enhanced Raman Scattering Studies of Human Transcriptional Coactivator p300, *Journal of Physical Chemistry B* **110**, 16787 – 16792 (2006).
178. Md. Motin Seikh, **Chandrabhas Narayana**, A. K. Sood, P. Murugavel, M.W. Kim, P. A. Metcalf, J. M. Honig, and C. N. R. Rao, A Brillouin study of the temperature-dependence of the acoustic modes across the insulator-metal transitions in V_2O_3 and Cr-doped V_2O_3 , *Solid State Communications* **139**, 466 – 471 (2006).
179. G. Kavitha and **Chandrabhas Narayana**, Raman Scattering Studies on n-Heptane under High Pressure, *Journal of Physical Chemistry B* **110**, 8777 – 8781 (2006).
180. Md. Motin Seikh, **Chandrabhas Narayana**, A. K. Cheetham, and C. N. R. Rao, A comparative study of the electro- and hole-doped compositions of single-crystalline $Nd_{1-x}Ca_xMnO_3$ ($x = 0.6$ and 0.4), *Solid State Science* **7**, 1486 – 1491 (2005).
181. Tokeer Ahmad, G. Kavitha, **Chandrabhas Narayana**, and Ashok K. Ganguli, Nanostructured barium titanate prepared through a modified reverse micellar route: Structural distortion and dielectric, *Journal of Materials Research* **20**, 1415 – 1421 (2005).
182. Md. Motin Seikh, **Chandrabhas Narayana**, P. A. Metcalf, J. M. Honig, and A. K. Sood, Brillouin scattering studies in Fe_3O_4 across the Verwey transition, *Physical Review B* **71**, 174106 – 174110 (2005).
183. Md. Motin Seikh, A. K. Sood and **Chandrabhas Narayana**, Electronic and vibrational Raman spectroscopy of $Nd_{0.5}Sr_{0.5}MnO_3$ through the phase transitions, *Pramana* **64**, 119 – 128 (2005).
184. C.N.R. Rao, Md. Motin Seikh and **Chandrabhas Narayana**, Spin State Transition in $LaCoO_3$ and Related Materials, *Topics in Current Chemistry* **234**, 1 – 21 (2004).
185. L. Sudheendra, Md. Motin Seikh, A. R. Raju, **Chandrabhas Narayana**, and C. N. R. Rao, Dielectric properties of rare earth cobaltates, $LnCoO_3$ ($Ln = La, Pr, Nd$), across the spin-spin transition, *Ferroelectrics* **306**, 227 – 234 (2004).
186. S. Mandal, G. Kavitha, **Chandrabhas Narayana**, and S. Natarajan, Solvothermal synthesis of an open-framework zinc chlorophosphate $[C_8N_4H_{26}]Zn_3Cl(HPO_4)_3(PO_4)$, with a layer structure, *Journal of Solid State Chemistry* **177**, 2198 – 2204 (2004).
187. Md. Motin Seikh, L. Sudheendra, **Chandrabhas Narayana**, and C. N. R. Rao, A Raman study of the temperature-induced low-to-intermediate-spin state transition in $LaCoO_3$, *Journal of Molecular Structure* **706**, 121 – 126 (2004).
188. Md. Motin Seikh, **Chandrabhas Narayana**, L. Sudheendra, A. K. Sood and C. N. R. Rao, A Brillouin scattering study of $La_{0.77}Ca_{0.23}MnO_3$; across the metal-insulator transition, *Journal of Physics: Condense Matter* **16**, 4381 – 4390 (2004).
189. Pallavi Teredesai, D. V. S. Muthu, N. Chandrabhas, S. Meenakshi, V. Vijayakumar, P. Modak, R. S. Rao, B. K. Godwal, S. K. Sikka, and A. K. Sood, High-pressure phase transitions in metallic LaB_6 : Raman and x-ray diffraction studies, *Solid State Communications* **129**, 791 – 796 (2004).
190. G. Kavitha, S. R. C. Vivek, A. Govindaraj, and **Chandrabhas Narayana**, A low-cost Raman spectrometer design used to study Raman scattering from a single-walled carbon nanotube, *Proceedings Indian Academy of Sciences (Chemical Science)* **115**, 689 – 694 (2003).

191. Md. Motin Seikh, **Chandrabhas Narayana**, Sachin Parashar, and A. K. Sood, Temperature-dependent Brillouin scattering studies of surface acoustic modes in $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$, *Solid State Communications* **127**, 209 – 214 (2003).
192. **Chandrabhas Narayana**, Brillouin scattering studies on charge-ordered manganite, *Journal of Indian Institute of Science* **82**, 093 – 103 (2002).
193. L. Sudheendra, Md. Motin Seikh, A. R. Raju and **Chandrabhas Narayana**, An Infrared spectroscopic study of the low-spin to intermediate-spin state ($^1A_1 - ^3T_1$) transition in rare-earth cobaltates, LnCoO_3 (Ln = La, Pr, and Nd), *Chemical Physics Letters* **340**, 275 – 281 (2001).
194. P. Murugavel, N. Chandrabhas, A. R. Raju, A. K. Sood, and C. N. R. Rao, Magnetic excitations in charge-ordered $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$: A Brillouin scattering study, *Europhysics Letters* **52**, 461 – 467 (2000).
195. P. Murugavel, **Chandrabhas Narayana**, A. Govindaraj, A. K. Sood and C. N. R. Rao, Brillouin scattering from C_{70} and C_{60} Films: Comparative study of elastic Properties, *Chemical Physics Letters* **331**, 149 – 153 (2000).
196. P. Murugavel, **Chandrabhas Narayana**, A. K. Sood, and C. N. R. Rao, A Brillouin scattering study of the quasi-one-dimensional blue bronze, $\text{K}_{0.3}\text{MoO}_3$, *Journal of Physics: Condense Matter* **12**, L225 (2000).
197. Jon Orloff, **Chandrabhas Narayana**, and A. L. Ruoff, Use of focused ion beams for making tiny sample holes in gaskets for diamond anvil cells, *Reviews of Scientific Instruments* **71**, 216 – 219 (2000).
198. A. L. Ruoff, T. Li, A. C. Ho, M-F. Pai, H. Luo, R. G. Greene, **Chandrabhas Narayana**, J. C. Molstad, S. S. Trail, F. J. DiSalvo, and P.E. van Camp, Jr., Sevenfold coordinated MgSe: Experimental internal atom position determination to 146 GPa, diffraction studies to 202 GPa, and theoretical studies to 500 GPa, *Physical Review Letters* **81**, 2723 – 2726 (1998).
199. **Chandrabhas Narayana**, Huan Luo, Jon Orloff, and A. L. Ruoff, Solid hydrogen at 342 GPa: no evidence for an alkali metal, *Nature* **393**, 46 – 49 (1998).
200. **Chandrabhas Narayana**, V. J. Nesamony, and A. L. Ruoff, Phase transformation of BeS and equation of state studies to 96 GPa, *Physical Review B* **56**, 14338 – 14343 (1997).
201. A. K. Sood, **N. Chandrabhas**, D. V. S. Muthu and A. Jayaraman, Phonon Interference in BaTiO_3 : High-Pressure Raman Study, *Physical Review B* **51**, 8892 – 8895 (1995).
202. **N. Chandrabhas** and A. K. Sood, Raman Study of Pressure-induced Phase Transitions in RbIO_4 , *Physical Review B* **51**, 8795 – 8800 (1995).
203. **N. Chandrabhas**, A. K. Sood, D.V.S Muthu, C. S. Sundar, A. Bharathi, Y. Hariharan, and C. N. R. Rao, Pressure-induced Amorphization in solid C_{70} : Raman and Photoluminescence Study, *Physical Review Letters* **73**, 3411 – 3414 (1994).
204. **N. Chandrabhas**, A. K. Sood, D. Sundaraman, S. Raju, V. S. Raghunathan, G. V. N. Rao, V. S. Sastry, T. S. Radhakrishnan, Y. Hariharan, A. Bharathi, and C. S. Sunder, Studies on Structure and Vibrational Properties of Carbon Tubules, *Pramana – Journal of Physics* **42**, 375 – 385 (1994).
205. A. K. Sood, **N. Chandrabhas**, D. V. S. Muthu, Y. Hariharan, A. Bharathi, and C. S. Sunder, Pressure-induced Band gap Reduction, Orientational Phase Transition, and Reversible Amorphization in C_{70} Crystals: Photoluminescence and Raman Study, *Philosophical Magazine B* **70**, 347 – 358 (1994).

206. M. N. Shashikala, **N. Chandrabhas**, K. Jayaram, A. Jayaraman, and A. K. Sood, High-Pressure Raman Spectroscopic Study of LiCsSO_4 : Pressure-Induced Phase Transitions and Amorphization, *Journal of Physics and Chemistry of Solids* **55**, 107 – 112 (1994).
207. D. V. S. Muthu, **N. Chandrabhas**, A. K. Sood, K. Venkatesan, P. Venugopalan, and A. Jayaraman, A High-Pressure Raman Study of K and T Forms of Octachloro Cyclic Phosphazene Tetramer $\text{P}_4\text{N}_4\text{Cl}_8$, *Journal of Raman Spectroscopy* **23**, 611 – 614 (1993).
208. **N. Chandrabhas**, K. Jayaram, D. V. S. Muthu, A. K. Sood, R. Seshadri, and C. N. R. Rao, Orientational Phase Transitions in C_{70} : A Raman Spectroscopic Investigation, *Physical Review B (Rapid Communication)* **47**, 10963 – 10966 (1993).
209. M. N. Shashikala, **N. Chandrabhas**, K. Jayaram, A. Jayaraman, and A. K. Sood, Pressure-Induced Phase Transitions in LiRbSO_4 : A Raman Spectroscopic Study, *Journal of Raman Spectroscopy* **24**, 129 – 132 (1993).
210. **N. Chandrabhas**, M. N. Shashikala, D.V. S. Muthu, A. K. Sood, and C. N. R. Rao, Pressure-Induced Orientational Ordering in C_{60} Crystals as revealed by Raman Spectroscopy, *Chemical Physics Letters* **197**, 319 – 323 (1992).
211. A. K. Sood, **N. Chandrabhas**, D. V. S. Muthu, A. Jayaraman, N. Kumar, H. R. Krishnamurthy, T. Pradeep, and C. N. R. Rao, Pressure-Induced Shift of the Photoluminescence Band in Single Crystals of Buckminster Fullerene C_{60} and its Implications for Superconductivity in Doped Samples, *Solid State Communications* **81**, 89 – 92 (1992).
212. **N. Chandrabhas**, D. V. S. Muthu, A. K. Sood, H. L. Bhat, and A. Jayaraman, Raman Study of Pressure-Induced Structural Transitions in CsIO_4 to 12 GPa, *Journal of Physics and Chemistry of Solids* **53**, 959 – 965 (1992).
213. K. S. Harshavardhan, M. N. Vijayaraghavan, **N. Chandrabhas**, and A. K. Sood, Raman investigations of diamond films prepared by combustion flames, *Journal of Applied Physics* **68**, 3303 – 3306 (1990).
214. B. N. Meera, A. K. Sood, **N. Chandrabhas** and J. Ramakrishna, Raman study of lead borate glasses, *Journal of Non-Crystalline Solids* **126**, 224 – 230 (1990).
215. C. N. R. Rao, R. Nagarajan, R. Vijaya Raghavan, N. Y. Vasanthacharya, G. V. Kulkarni, G. Ranga Rao, A. M. Umarji, P. Somasundaram, G. N. Subbanna, A. R. Raju, A. K. Sood, and **N. Chandrabhas**, Superconducting cuprates of the series $\text{Bi}_2\text{Ca}_{1-x}\text{Ln}_x\text{Sr}_2\text{Cu}_2\text{O}_{8+d}$ (Ln = rare earth or Y), *Superconductors – Science and Technology* **3**, 242 – 248 (1990).
216. R. Vijayaraghavan, A. K. Ganguli, N. Y. Vasanthacharya, M. K. Rajumon, G. U. Kulkarni, G. Sarkar, D. D. Sarma, A. K. Sood, **N. Chandrabhas** and C. N. R. Rao, Investigations of novel cuprates of the $\text{TlCa}_{(1-x)}\text{Ln}_x\text{Sr}_2\text{Cu}_2\text{O}_{7-d}$ (Ln = rare earth) series showing electron-or hole superconductivity depending on the composition, *Superconductors – Science and Technology* **2**, 195 – 201 (1989).