

**PAPERS PUBLISHED BY NPL SCIENTISTS IN SCI JOURNALS
IN 2004**

S. No.	Title	*STIF2004
1.	Acoustic behaviour of plastics for medical applications Lochab J, Singh VR INDIAN JOURNAL OF PURE & APPLIED PHYSICS 42 (8): 595-599 AUG 2004	0.399
2.	Altitude profiles of aerosol BC, derived from aircraft measurements over an inland urban location in India Moorthy KK, Babu SS, Sunilkumar SV, et al. GEOPHYSICAL RESEARCH LETTERS 31 (22): Art. No. L22103 NOV 20 2004	2.378
3.	Amperometric cholesterol biosensor based on immobilized cholesterol esterase and cholesterol oxidase on conducting polypyrrole films Singh S, Chaubey A, Malhotra BD ANALYTICA CHIMICA ACTA 502 (2): 229-234 JAN 30 2004	2.588
4.	Application of the Rietveld method to quantitative analysis of impurities in synthetic diamond powder Rashmi, Singh N, Sarkar AK POWDER DIFFRACTION 19 (2): 141-144 JUN 2004	0.532
5.	Applications of new FG MOS based CCII in low voltage analog filters Sharma S, Rajput SS, Mangotra LK, et al. INDIAN JOURNAL OF ENGINEERING AND MATERIALS SCIENCES 11 (5): 397-400 OCT 2004	0.087
6.	Behaviour of Goldstone and soft mode at T-c in ferroelectric liquid crystals Kaur S, Thakur AK, Bawa SS, et al. PHYSICA B-CONDENSED MATTER 344 (1-4): 133-139 FEB 15 2004	0.679
7.	Biosensor based on Langmuir-Blodgett films of poly(3-h exyl thiophene) for detection of galactose in human blood Sharma SK, Singhal R, Malhotra BD, et al. BIOTECHNOLOGY LETTERS 26 (8): 645-647 APR 2004	0.849
8.	Bistability in deformed helix ferroelectric liquid crystal Kaur S, Thakur AK, Chauhan R, et al. JOURNAL OF APPLIED PHYSICS 96 (5): 2547-2551 SEP 1 2004	2.255

9.	Blue electroluminescence in organic semiconductors Misra A, Kumar L, Kumar P, et al. INDIAN JOURNAL OF PURE & APPLIED PHYSICS 42 (11): 793-805 NOV 2004	0.399
10.	Capillary action in narrow and wide tubes - a unified approach Gupta SV METROLOGIA 41 (6): 361-364 DEC 2004	1.314
11.	Characterization and analysis of high temperature superconducting microstrip and coplanar resonators using a spectral domain method Kedar A, Kataria ND, Gupta KK SUPERCONDUCTOR SCIENCE & TECHNOLOGY 17 (7): 823-827 JUL 2004	1.556
12.	Characterization of aerosols from biomass burning - a case study from Mizoram (Northeast), India Badarinath KVS, Latha KM, Chand TRK, et al. CHEMOSPHERE 54 (2): 167-175 JAN 2004	2.359
13.	Characterization of interfaces in nanoscale semiconductor devices by optimization of depth resolution in SIMS depth profiling Chakraborty BR APPLIED SURFACE SCIENCE 221 (1-4): 143-154 JAN 15 2004	1.497
14.	Coercivity variations at the top and bottom NiFe layers in NiFe/FeMn/NiFe trilayers Sankaranarayanan VK, Yoon SM, Kim C, et al. PHYSICA STATUS SOLIDI B-BASIC RESEARCH 241 (7): 1486-1489 JUN 2004	0.860
15.	A color-neutral, Gd nanoparticle switchable mirror with improved optical contrast and response time Aruna H, Mehta BR, Malhotra LK, et al. ADVANCED MATERIALS 16 (2): 169+ JAN 16 2004	8.079
16.	Comparative evaluation of Indian physics research: impact factor vs citations frequency Dhawan SM, Gupta BM CURRENT SCIENCE 86 (9): 1194-1195 MAY 10 2004	0.688
17.	Composite gel electrolytes based on poly(methylmethacrylate) and hydrophilic fumed silica Agnihotry SA, Ahmad S, Gupta D, et al. ELECTROCHIMICA ACTA 49 (14): 2343-2349 JUN 15 2004	2.341

18.	Composite polymeric electrolytes based on PMMA-LiCF ₃ SO ₃ -SiO ₂ Ahmad S, Ahmad S, Agnihotry SA IONICS 10 (3-4): 268-272 2004	
19.	Conjugate regenerative dividers Sen Gupta A, Nava JFG, Walls FL IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL 51 (3): 271-276 MAR 2004	1.545
20.	Controlled growth of ZnS : Mn nanophosphor in porous silica matrix Haranath D, Bhalla N, Chander H, et al. JOURNAL OF APPLIED PHYSICS 96 (11): 6700-6705 DEC 1 2004	2.255
21.	Determination of correlation properties of moving diffuser by spectral analyses of the scattered light emerging from two pinholes Kandpal HC, Anand S JOURNAL OF MODERN OPTICS 51 (5): 669-676 MAR 20 2004	1.148
22.	Determination of various impurities in synthetic diamond powder Singh N, Rashmi, Sarkar AK JOURNAL OF MATERIALS SCIENCE 39 (5): 1665-1669 MAR 1 2004	0.864
23.	Development of carbon fibres from pitches modified with polymers Bhatia G, Raman V, Aggarwal RK, et al. JOURNAL OF MATERIALS SCIENCE 39 (4): 1297-1303 FEB 15 2004	0.864
24.	Development of exchange bias in IrMn ₃ based tunnel junctions Sankaranarayanan VK, Hu YK, Kim CG, et al. PHYSICA STATUS SOLIDI A-APPLIED RESEARCH 201 (8): 1688-1691 JUN 2004	0.860
25.	Diurnal and seasonal variations of hmF ₂ deduced from digital ionosonde over New Delhi and its comparison with IRI 2001 Sethi NK, Dabas RS, Vohra VK ANNALES GEOPHYSICAE 22 (2): 453-458 2004	1.610
26.	Diurnal, seasonal and latitudinal variations of ion temperature measured by the SROSS C2 satellite in the Indian zone equatorial and low latitude ionosphere and comparison with the IRI Bhuyan PK, Chamua M, Subrahmanyam P, et al. JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS 66 (3-4): 301-312 FEB-MAR 2004	1.517

27.	Effect of injecting electrodes on TSD behaviour of vacuum deposited PVF films Chand S, Sharma GD, Dwivedi S, et al. IONICS 10 (1-2): 148-150 2004	
28.	Effect of pH on electrical and optical properties of sol-gel derived microcrystalline Ba _{0.5} Sr _{0.5} TiO ₃ thin films Roy SC, Sharma GL, Bhatnagar MC, et al. APPLIED SURFACE SCIENCE 236 (1-4): 306-312 SEP 15 2004	1.497
29.	Effect of poly(vinylidene fluoride) interface layer on charge storage and residual potential in amorphous selenium films Chand S, Sharma GD, Dwivedi S, et al. JOURNAL OF APPLIED POLYMER SCIENCE 91 (3): 1962-1966 FEB 5 2004	1.021
30.	The effect of rotational viscosity on the memory effect in ferroelectric liquid crystal Kaur S, Thakur AK, Chauhan R, et al. PHYSICA B-CONDENSED MATTER 352 (1-4): 337-341 OCT 30 2004	0.679
31.	Effect of TiO ₂ on electron paramagnetic resonance, optical transmission and dc conductivity of vanadyl doped sodium borate glasses Agarwal A, Seth VP, Gahlot P, et al. SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY 60 (13): 3161-3167 NOV 2004	1.188
32.	Electrical and optical nonlinearity in vacuum-deposited thin films of poly[N-(4-benzoylphenyl)-2-methylacrylamide] Kalra N, Chand F, Mishra SC, et al. JOURNAL OF NONLINEAR OPTICAL PHYSICS & MATERIALS 13 (1): 65-79 MAR 2004	0.747
33.	Electrochemical growth and characterization of manganese telluride thin films Sharma RK, Rastogi AC, Singh G MATERIALS CHEMISTRY AND PHYSICS 84 (1): 46-51 MAR 15 2004	1.113
34.	Electrodeposited tungsten oxide films: annealing effects on structure and electrochromic performance Deepa M, Kar M, Agnihotry SA THIN SOLID FILMS 468 (1-2): 32-42 DEC 1 2004	1.647
35.	Electron microscopy and diffraction analysis of nano-structured prussian blue thin films Srivastava AK, Kishore R, Swati, et al. INDIAN JOURNAL OF ENGINEERING AND MATERIALS SCIENCES 11 (4): 315-318 AUG 2004	0.087

36.	Enhancement in electron and ion temperatures due to solar flares as measured by SROSS-C2 satellite Sharma DK, Rai J, Israil M, et al. ANNALES GEOPHYSICAE 22 (6): 2047-2052 2004	1.610
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38.	Enhancement of luminescent properties of ZnS : Mn nanophosphors by controlled ZnO capping Karar N, Chander H, Shivaprasad SM APPLIED PHYSICS LETTERS 85 (21): 5058-5060 NOV 22 2004	4.308
39.	Errors in position-fixing by GPS in an environment of strong equatorial scintillations in the Indian zone DasGupta A, Ray S, Paul A, et al. RADIO SCIENCE 39 (1): Art. No. RS1S30 FEB 12 2004	1.007
40.	The evolution of the Sb/Si interface at room temperature on the Si(111)-(7 x 7) and the Si(100)-(2 x 1) reconstructed surfaces Shivaprasad SM, Paliwal VK, Chaudhuri A APPLIED SURFACE SCIENCE 237 (1-4): 93-98 OCT 15 2004	1.497
41.	Exchange bias in NiFe/FeMn/NiFe trilayers Sankaranarayanan VK, Yoon SM, Kim DY, et al. JOURNAL OF APPLIED PHYSICS 96 (12): 7428-7434 DEC 15 2004	2.255
42.	An experimental study of anomalous behavior of spectra near phase singularity Anand S, Kandpal HC OPTICS COMMUNICATIONS 232 (1-6): 69-75 MAR 1 2004	1.581
43.	Experimental study of spectral anomalies in a Fraunhofer diffraction pattern Anand S, Kandpal HC JOURNAL OF OPTICS A-PURE AND APPLIED OPTICS 6 (2): 177-179 FEB 2004	1.231
44.	Fe content variation and superconducting order parameter dimensionality in ErBa ₂ Cu _{3-x} Fe _x O _{7-δ} Upreti UC INDIAN JOURNAL OF PURE & APPLIED PHYSICS 42 (1): 38-42 JAN 2004	0.399
45.	Formation and characterization Y : 247 film through spray pyrolysis technique Anand S, Srivastava ON BULLETIN OF MATERIALS SCIENCE 27 (2): 113-119 APR 2004	0.554

46.	Frequency-temperature compensated whispering gallery mode dielectric resonator and oscillator Kataria ND, Kumar V CHINESE JOURNAL OF PHYSICS 42 (4): 444-450 Part 2 AUG 2004	0.289
47.	Generation of even harmonics in a MgB ₂ bulk superconductor: an indication of the presence of weak link grain boundaries Khare N, Singh DP, Gupta AK, et al. SUPERCONDUCTOR SCIENCE & TECHNOLOGY 17 (12): 1372-1375 DEC 2004	1.556
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49.	High spectral purity cavity stabilized microwave oscillators Sen Gupta A INDIAN JOURNAL OF PURE & APPLIED PHYSICS 42 (6): 459-464 JUN 2004	0.399
50.	High spectral purity microwave oscillator: Design using conventional air-dielectric cavity Sen Gupta A, Howe DA, Nelson C, et al. IEEE TRANSACTIONS ON ULTRASONICS FERROELECTRICS AND FREQUENCY CONTROL 51 (10): 1225-1231 OCT 2004	1.545
51.	High-altitude clear-sky direct solar ultraviolet irradiance at Leh and Hanle in the western Himalayas: Observations and model calculations Singh S, Singh R JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES 109 (D19): Art. No. D19201 OCT 1 2004	2.839
52.	Immobilization of glucose oxidase onto electrochemically prepared poly(aniline-co-fluoroaniline) films (vol 91, pg 3999, 2004) Sharma AL, Singhal R, Kumar A, et al. JOURNAL OF APPLIED POLYMER SCIENCE 92 (2): 1374-1374 APR 15 2004	1.021
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55.	Indian Ocean Experiment [INDOEX]: An overview Mitra AP INDIAN JOURNAL OF MARINE SCIENCES 33 (1): 30-39 MAR 2004	0.150
56.	Induction of superconductivity in $Y_{0.4}Pr_{0.6}Ba_{2-x}Sr_xCu_3O_7$ system with increasing Sr substitution Awana VPS, Ansari MA, Gupta A, et al. PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS 417 (1-2): 33-39 DEC 15 2004	1.072
57.	Influence of pH on structural and electrical properties of sol-gel derived (Ba, Sr)TiO ₃ thin films under humid conditions Agarwala S, Samanta SB, Sharma GL THIN SOLID FILMS 447: 502-508 Sp. Iss. SI JAN 30 2004	1.647
58.	Influence of ZnO on optical properties and dc conductivity of vanadyl-doped alkali bismuthate glasses Gahlot PS, Seth VP, Agarwal A, et al. RADIATION EFFECTS AND DEFECTS IN SOLIDS 159 (4): 223-231 APR 2004	0.403
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60.	Investigation on porous silicon/CdTe system Jain K, Singh PK, Laxmikumar ST INDIAN JOURNAL OF PHYSICS AND PROCEEDINGS OF THE INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE-PART A 78A (2): 261-264 MAR 2004	
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62.	Ionospheres of Venus and Mars: a comparative study Mahajan KK, Dwivedi AK ADVANCES IN SPACE RESEARCH 33 (2): 145-151 2004	0.548
63.	Ion-pairing effects and ion-solvent-polymer interactions in LiN(CF ₃ SO ₂)(2)-PC-PMMA electrolytes: a FTIR study Deepa M, Agnihotry SA, Gupta D, et al. ELECTROCHIMICA ACTA 49 (3): 373-383 JAN 30 2004	2.341
64.	Lactose biosensor based on Langmuir-Blodgett films of poly(3-hexyl thiophene) Sharma SK, Singhal R, Malhotra BD, et al. BIOSENSORS & BIOELECTRONICS 20 (3): 651-657 OCT 15 2004	3.251
65.	Laffont L, Monthieux M, Serin V, et al. EELS study of the structural and chemical transformation of PAN polymer to solid carbon An CARBON 42 (12-13): 2485-2494 2004	3.331
66.	Langmuir-Blodgett film based biosensor for estimation of galactose in milk Sharma SK, Singhal R, Malhotra BD, et al. ELECTROCHIMICA ACTA 49 (15): 2479-2485 JUN 30 2004	2.341
67.	Lightning induced heating of the ionosphere Sharma DK, Israil M, Rai J, et al. ATMOSFERA 17 (1): 31-38 JAN 1 2004	0.281
68.	Low field magnetoresistance and conduction noise in layered manganite La _{1.4} Ca _{1.6} Mn ₂ O ₇ Khare N, Gupta AK, Bhalla GL SOLID STATE COMMUNICATIONS 132 (11): 799-803 DEC 2004	1.523
69.	Low voltage, low power and high performance current conveyors for low voltage analog and mixed mode signal processing applications Rajput SS, Jamuar SS ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING 41 (1): 21-34 OCT 2004	0.207
70.	Magnetic field dependence of conductance and conduction noise of an artificial grain boundary junction in a La _{0.67} Ba _{0.33} MnO ₃ epitaxial thin film Khare N, Singh DP, Gupta AK, et al. SOLID STATE COMMUNICATIONS 132 (6): 415-419 NOV 2004	1.523

71.	Magnetic properties of the $\text{RuSr}_2\text{Ln}_{1.5}\text{Ce}_{0.5}\text{Cu}_2\text{O}_{10-\delta}$ (Ln = Y, Ho and Dy) and $\text{RuSr}_2\text{YCu}_2\text{O}_{8-\delta}$ rutheno-cuprate families: a comparative study Cardoso CA, Araujo-Moreira FM, Awana VPS, et al. PHYSICA C-SUPERCONDUCTIVITY AND ITS APPLICATIONS 405 (3-4): 212-218 JUN 15 2004	1.072
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73.	Mechanism of charge transport in polypyrrole-heparin composites Kaur A, Singh R, Yadav KL, et al. JOURNAL OF MACROMOLECULAR SCIENCE-PURE AND APPLIED CHEMISTRY A41 (12): 1369-1375 NOV 2004	0.700
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75.	Nanocrystalline magnetic alloy thin films Misra SCK, Mathur P, Pant RP, et al. INDIAN JOURNAL OF ENGINEERING AND MATERIALS SCIENCES 11 (4): 319-322 AUG 2004	0.087
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77.	New window on strange quark matter as the ground state of strongly interacting matter Soni V, Bhattacharya D PHYSICAL REVIEW D 69 (7): Art. No. 074001 APR 1 2004	5.156
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83.	On the effect of thermal history on magnetic properties of $\text{CuFe}_{2-2x}\text{Al}_x\text{Cr}_x\text{O}_4$ system Trivedi UN, Modi KB, Kundaliya DC, et al. JOURNAL OF ALLOYS AND COMPOUNDS 369 (1-2): 58-61 APR 28 2004	1.562
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86.	Parametric investigation on the growth of ternary MnIn_2Te_4 thin films for photovoltaic application Sharma RK, Singh G, Rastogi AC SOLAR ENERGY MATERIALS AND SOLAR CELLS 82 (1-2): 217-226 MAY 1 2004	1.432
87.	Patterns in melting snow and vapor deposited layers Mehrotra R, Kumar D PHYSICAL REVIEW LETTERS 92 (25): Art. No. 254502 JUN 25 2004	7.218

88.	A phase diagram of the Sb/Si(001) interfacial system Paliwal VK, Shivaprasad SM SURFACE SCIENCE 561 (2-3): L207-L212 JUL 20 2004	2.168
89.	Poly-3-hexyl thiophene Langmuir-Blodgett films for application to glucose biosensor Singhal R, Chaubey A, Kaneto K, et al. BIOTECHNOLOGY AND BIOENGINEERING 85 (3): 277-282 FEB 5 2004	2.216
90.	Possible competition between superconductivity and magnetism in RuSr ₂ Gd _{1.5} Ce _{0.5} Cu ₂ O _{10-δ} ruthenocuprate compounds Awana VPS, Ansari MA, Gupta A, et al. PHYSICAL REVIEW B 70 (10): Art. No. 104520 SEP 2004	3.075
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98.	Radial mode piezoelectric response of La modified lead zirconate titanate in morphotropic phase boundary region Shukla AK, Agrawal VK, Soni NC, et al. FERROELECTRICS 308: 67-84 2004	0.517
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107.	Spectral behavior of the electronic states of bilayer cuprate systems using a slave fermion approach Govind, Lal R, Joshi SK PHYSICAL REVIEW B 69 (9): Art. No. 094522 MAR 2004	3.075
108.	Spectral-domain modeling of superconducting microstrip structures: Transmission lines and resonators Kedar A, Gupta KK, Kataria ND MICROWAVE AND OPTICAL TECHNOLOGY LETTERS 41 (1): 55-59 APR 5 2004	0.456
109.	Spin-glass-like transition in interacting MnFe ₂ O ₄ nanoparticles Balaji G, Wilde G, Weissmuller J, et al. PHYSICA STATUS SOLIDI B-BASIC RESEARCH 241 (7): 1589-1592 JUN 2004	0.982
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113.	Structure and photoluminescence studies on ZnS : Mn nanoparticles Karar N, Singh F, Mehta BR JOURNAL OF APPLIED PHYSICS 95 (2): 656-660 JAN 15 2004	2.255
114.	Structure-property correlation of nanostructured WO ₃ thin films produced by electrodeposition Deepa M, Srivastava AK, Singh S, et al. JOURNAL OF MATERIALS RESEARCH 19 (9): 2576-2585 SEP 2004	1.912

115.	Study of electron paramagnetic resonance, optical transmission and dc conductivity of vanadyl doped Bi ₂ O ₃ center dot B ₂ O ₃ center dot Li ₂ O glasses Agarwal A, Seth VP, Gahlot PS, et al. JOURNAL OF ALLOYS AND COMPOUNDS 377 (1-2): 225-231 SEP 8 2004	1.562
116.	Study of low field magneto-resistance in La(0.67)A(0.33)MnO(3) [A = Ca, Ba, Sr] screen printed films Khare N, Moharil UP, Singh B, et al. INDIAN JOURNAL OF PURE & APPLIED PHYSICS 42 (1): 62-66 JAN 2004	0.399
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