

Indexes to Volume 80

SUBJECT INDEX

Mathematical Methods in Physics

- SUSY formalism for the symmetric double well potential
Pinaki Patra, Abhijit Dutta and Jyoti Prasad Saha 21–30
- Solutions and conservation laws of Benjamin–Bona–Mahony–Peregrine equation
with power-law and dual power-law nonlinearities *Chaudry Masood Khalique* 413–427
- Symmetries and casimir of an extended classical long wave system
K M Tamizhmani, R Ilangovane and B Dubrovin 559–569
- The symmetries and conservation laws of some Gordon-type equations in Milne
space-time *S Jamal, A H Kara, A H Bokhari and F D Zaman* 739–755
- Exact travelling wave solutions for some important nonlinear physical models
Jonu Lee and Rathinasamy Sakthivel 757–769
- Classification of single travelling wave solutions to the generalized Zakharov–
Kuznetsov equation *Jin-Yan Hu* 771–783
- New travelling wave solutions for nonlinear stochastic evolution equations
Hyunsoo Kim and Rathinasamy Sakthivel 917–931
- Single-peak solitary wave solutions for the variant Boussinesq equations
Hong Li, Lilin Ma and Dahe Feng 933–944

Quantum Mechanics, Field Theories, and Special Relativity

- Exact solutions of Feinberg–Horodecki equation for time-dependent anharmonic
oscillator *P K Bera and Tapas Sil* 31–39
- Fermionic particles with position-dependent mass in the presence of inversely
quadratic Yukawa potential and tensor interaction *M K Bahar and F Yasuk* 187–197
- Is quantum theory compatible with special relativity? *M Bahrani,*
A Shafiee, M Saravani and M Golshani 429–437
- Collapse revival behaviour of the entanglement between V-type three-level atoms
and two-mode photons in nonlinear Jaynes–Cummings model
M Mahjoei, M M Golshan and H Safari 785–796
- Confinement, average forces, and the Ehrenfest theorem for a one-dimensional
particle *Salvatore De Vincenzo* 797–810

General Relativity and Gravitation

- Covariant anomalies and Hawking radiation from Kaluza–Klein AdS black holes
Chuan-Yi Bai 199–206
- Spherically symmetric scalar field collapse
Koyel Ganguly
and Narayan Banerjee 439–448

- Energy in the Kantowski–Sachs space-time using teleparallel geometry
Anuradha Das Purkayastha 571–581
- Space-time algebra for the generalization of gravitational field equations
Süleyman Demir 811–823
- The Kepler problem in the Snyder space
*Carlos Leiva, Joel Saavedra
and J R Villanueva* 945–951

Statistical Physics

- Bifurcation analysis and the travelling wave solutions of the Klein–Gordon–Zakharov equations
Zaiyun Zhang, Fang-Li Xia and Xin-Ping Li 41–59
- Generalized entropy production fluctuation theorems for quantum systems
Shubhashis Rana, Sourabh Lahiri and A M Jayannavar 207–222
- Complete switched modified function projective synchronization of a five-term chaotic system with uncertain parameters and disturbances
*Fei Yu,
Chunhua Wang, Qiuzhen Wan and Yan Hu* 223–235
- Q-S synchronization of the fractional-order unified system
*Yi Chai,
Liping Chen, Ranchao Wu and Juan Dai* 449–461
- Peakons and compactons on the background of periodic wave
Chao-Qing Dai and Cui-Yun Liu 463–470
- Double compactons in the Olver–Rosenau equation
Aiyong Chen and Shuangquan Wen 471–478
- Adaptive control and synchronization of a fractional-order chaotic system
Chunlai Li and Yaonan Tong 583–592
- Synchronizability on complex networks via pinning control
Yi Liang and Xingyuan Wang 593–606
- Comparison of backstepping and modified active control in projective synchronization of chaos in an extended Bonhöffer–van der Pol oscillator
K S Ojo, A N Njah and S T Ogunjo 825–835

Instrumentation and Techniques

- Energy-dispersive X-ray diffraction beamline at Indus-2 synchrotron source
*K K Pandey, H K Poswal, A K Mishra, Abhilash Dwivedi,
R Vasanthi, Nandini Garg and Surinder M Sharma* 607–619

Particle Physics

- Unpolarized coupled DGLAP evolution equation at small- x
Saurav Bhattacharjee, Ranjit Baishya and Jayanta Kumar Sarma 61–68
- The Standard Model with one universal extra dimension
*A Cordero-Cid,
M Gómez-Bock, H Novales-Sánchez and J J Toscano* 369–412
- Mass shift of σ -meson in nuclear matter
*J R Morones-Ibarra,
Mónica Menchaca Maciel, Ayax Santos-Guevara
and Felipe Robledo Padilla* 479–485
- Investigation of the zenith angle dependence of cosmic-ray muons at sea level
Mehmet Bektasoglu and Halil Arslan 837–846

Nuclear Physics

- Candidate of the member of three-phonon multiplet observed in the $\beta^+ + \text{EC}$ decay of ^{76}Br *Shuifa Shen and Yongbo Chen* 69–80
- Role of energy cost in the yield of cold ternary fission of ^{252}Cf *P V Kunhikrishnan and K P Santhosh* 81–88
- Thermal-hydraulic analysis of LBE spallation target for accelerator-driven systems *Aniseh Ahmed Atef Abdalla, Jiyang Yu and Yongwei Yang* 89–103
- Neutronic simulation of a research reactor core of (^{232}Th , ^{235}U) O_2 fuel using MCNPX2.6 code *Seyed Amir Hossein Fegghi, Marzieh Rezazadeh, Yacine Kadi, Claudio Tenreiro, Morteza Aref and Zohreh Gholamzadeh* 105–120
- Quadrupole moments of low-lying baryons with $\text{spin-}\frac{1}{2}^+$, $\text{spin-}\frac{3}{2}^+$, and $\text{spin-}\frac{3}{2}^+ \rightarrow \frac{1}{2}^+$ transitions *Neetika Sharma and Harleen Dahiya* 237–249
- Equilibrium and pre-equilibrium calculations of cross-sections of (p , xn) reactions on ^{89}Y , ^{90}Zr and ^{94}Mo targets used for the production of ^{89}Zr , ^{90}Nb and ^{94}Tc positron-emitting radionuclides *R Baldik, H Aytekin and E Tel* 251–261
- Measurement, analysis and correction of the closed orbit distortion in Indus-2 synchrotron radiation source *Riyasat Husain, A D Ghodke, Surendra Yadav, A C Holikatti, R P Yadav, P Fatnani, T A Puntambekar and P R Hannurkar* 263–275
- Particle–particle Tamm–Dancoff approximation and particle–particle random phase approximation calculations for ^{18}O and ^{18}F nuclei *Ali H Taqi Al-Bayati* 355–360
- Fission dynamics of the compound nucleus ^{213}Fr formed in heavy-ion-induced reactions *Hadi Eslamizadeh* 621–630
- Effect of the isovector coupling channel on the macroscopic part of the nuclear binding energy *S Haddad* 847–854
- Beam lifetime measurement and analysis in Indus-2 electron storage ring *Pradeep Kumar, A D Ghodke and Gurnam Singh* 855–871
- The measurements of thermal neutron flux distribution in a paraffin phantom *Parisa Akhlaghi, Laleh Rafat-Motavalli and Seyed Hashem Miri-Hakimabad* 873–885
- Microscopic study of positive-parity yrast bands of $^{224-234}\text{Th}$ isotopes *Daya Ram, Rani Devi and S K Khosa* 953–970
- Three-dimensional simulation studies of 10 MeV, 352.2 MHz drift tube Linac *Nita S Kulkarni* 971–981
- Searching for universal behaviour in superheated droplet detector with effective recoil nuclei *Mala Das and Susnata Seth* 983–994
- Erratum to: Quadrupole moments of low-lying baryons with $\text{spin-}\frac{1}{2}^+$, $\text{spin-}\frac{3}{2}^+$, and $\text{spin-}\frac{3}{2}^+ \rightarrow \frac{1}{2}^+$ transitions *Neetika Sharma and Harleen Dahiya* 1083

Atomic and Molecular Physics

- Quantum effects at low-energy atom–molecule interface *B Deb, A Rakshit,
J Hazra and D Chakraborty* 3–19
- Ring and jet study on the azimuthal substructure of pions at CERN SPS energy
*Prabir Kumar Haldar, Sanjib Kumar Manna,
Prosenjit Saha and Dipak Ghosh* 631–642

Lasers, Optics, and Heat Transfer

- Planar electron beams in a wiggler magnet array *Arti Hadap and K C Mittal* 277–282
- Soliton solutions of some nonlinear evolution equations with time-dependent coefficients
Hitender Kumar, Anand Malik and Fakir Chand 361–367
- Analysis of thermal distribution in two end pumping Nd:YAG laser rod using bacterial foraging optimization algorithm
Mohammed A Minshed 487–505
- Nonlinear properties of a graded-index photonic heterostructure
*B Tavakkoly Moghaddam,
S Roshan Entezar and H Pashaei Adl* 887–894
- High harmonic generation in H_2^+ and HD^+ by intense femtosecond laser pulses: A wave packet approach with nonadiabatic interaction in HD^+ *Farzana Sharmin,
Samir Saha and S S Bhattacharyya* 995–1010
- Temperature profile evolution in quenching high- T_c superconducting composite tape
Ziauddin Khan, Subrata Pradhan and Irfan Ahmad 1011–1016
- Solitary heat waves in nonlinear lattices with squared on-site potential
Rovinita Perseus and M M Latha 1017–1030

Plasma Physics

- Antenna coupling study for ICWC plasma characterization in TEXTOR
*Manash Kumar Paul, A Lysoivan, R Koch, G Van Wassenhove, M Vervier,
G Bertschinger, R Laengner, B Unterberg, G Sergienko, V Philipps
T Wauters and the TEXTOR Team* 121–131
- Influence of argon plasma treatment on polyethersulphone surface *N L Singh,
S M Pelagade, R S Rane, S Mukherjee, U P Deshpande,
V Ganeshan and T Shripathi* 133–141
- Drift wave in pair-ion plasma *Samiran Ghosh, Nikhil Chakrabarti,
Manoranjan Khan and M R Gupta* 283–287
- Plasma excitations in a single-walled carbon nanotube with an external transverse magnetic field
K A Vijayalakshmi and T P Nafeesa Baby 289–294
- Dust-acoustic solitons in quantum plasma with kappa-distributed ions
Mehran Shahmansouri 295–306
- Generation of uniform atmospheric pressure argon glow plasma by dielectric barrier discharge
*Raju Bhai Tyata, Deepak Prasad Subedi, Rajendra Shrestha
and Chiow San Wong* 507–517

- Head-on collision of dust-ion-acoustic solitons in electron-dust-ion quantum plasmas
*Prasanta Chatterjee, Malay Kumar Ghorui
and Rajkumar Roychoudhury* 519–531
- Collision and recombination driven instabilities in variable charged dusty plasmas
S Bal and M Bose 643–664
- Effect of superthermal electrons on dust-acoustic Gardner solitons in nonplanar geometry
*Deb Kumar Ghosh, Uday Narayan Ghosh, Prasanta Chatterjee
and C S Wong* 665–676
- Absolute parametric instability in a nonuniform plane plasma waveguide
*Khaled Hamed El-Shorbagy, Atef Ahmed El-Bendary
and Shatha Jameel Monaquel* 677–684
- Arc plasma devices: Evolving mechanical design from numerical simulation
S Ghorui and A K Das 685–699
- Nonlinear propagation of dust-acoustic solitary waves in a dusty plasma with arbitrarily charged dust and trapped electrons
O Rahman and A A Mamun 1031–1039
- Condensed Matter Physics**
- A model for the occurrence and analysis of ionic thermocurrent spectrum involving different orders of kinetics
Jai Prakash 143–158
- A comparative study of the spectra recorded at RRCAT synchrotron BL-8 dispersive EXAFS beamline with other beamlines
*Abhijeet Gaur, B D Shrivastava
S N Jha, D Bhattacharyya and A Poswal* 159–171
- A tentative model for estimating the compressibility of rock-salt $\text{AgCl}_x\text{Br}_{1-x}$ alloys
Vassiliki Katsika-Tsigourakou and Efthimios S Skordas 307–313
- Effect of Al doping on microstructure and optical band gap of ZnO thin film synthesized by successive ion layer adsorption and reaction
S Mondal, S R Bhattacharyya and P Mitra 315–326
- Spin-dependent rectification in the C_{59}N molecule
*Mahvash Arabi Darehdor and
Nasser Shahtahmasebi* 327–336
- Induced moment due to perpendicular field cycling in trained exchange bias system
Amitesh Paul and S Mattauch 701–711
- Synthesis and characterization of aqueous MPA-capped CdS–ZnS core–shell quantum dots
*Atefeh Emamdoust, Saber Farjami Shayesteh
and Maziyar Marandi* 713–721
- Construction of an exact solution of time-dependent Ginzburg–Landau equations and determination of the superconducting–normal interface propagation speed in superconductors
Neelufar Panna and Jamal Nazrul Islam 895–901
- Vibrational properties of vacancy in bcc transition metals using embedded atom method potentials
Vandana Gairola, P D Semalty and P N Ram 1041–1054

- Finding confined water in the hexagonal phase of $\text{Bi}_{0.05}\text{Eu}_{0.05}\text{Y}_{0.90}\text{PO}_4 \cdot x\text{H}_2\text{O}$ and its impact for identifying the location of luminescence quencher *R S Ningthoujam* 1055–1064
- Durability of rewritable phase-change $\text{Ge}_x\text{Sb}_y\text{Te}_{1-x-y}$ memory devices
N Parvathala Reddy, Ch Bapanayya, Rajeev Gupta and S C Agarwal 1065–1081

Materials Science

- Nanoscale experimental study of the morphology of a microcrack in silicon by transmission electron microscopy *D S Liu, C W Zhao and X H Hou* 903–907

Interdisciplinary Physics

- Community detection using global and local structural information *Hai-Long Yan, Ju Xiang, Xiao-Yu Zhang, Jun-Feng Fan, Fang Chen, Gen-Yi Fu, Er-Min Guo, Xin-Guang Hu, Ke Hu and Ru-Min Wang* 173–185
- Complex network perspective on structure and function of *Staphylococcus aureus* metabolic network *L Ying and D W Ding* 337–348
- On the sharp front-type solution of the Nagumo equation with nonlinear diffusion and convection *M B A Mansour* 533–538
- A cellular automata model for ant trails *Sibel Gokce and Ozhan Kayacan* 909–915

Astronomy and Astrophysics

- Studying the cosmological apparent horizon with quasistatic coordinates
Rui-Yan Yu and Towe Wang 349–354
- Real gauge singlet scalar extension of the Standard Model: A possible candidate for cold dark matter
Anirban Biswas and Debasish Majumdar 539–557
- String cosmology in Bianchi type- VI_0 dusty Universe with electromagnetic field
Hassan Amirhashchi 723–738