Indian Journal of Physics Official Publication of the Indian Association for the Cultivation of Science

6 2 25 SB

For Circulation in India only







Indian Journal of Physics

Volume 98 · Number 14 · December 2024

Astrophysics, Atmospheric and Space Physics

Devi RR, Chattopadhyay S:

Multifractal detrended fluctuation analysis approach to the monthly total ozone concentration over New Delhi, India 4635

Varghese B, Thomas V, Abraham A, Chacko J, N Ankitha, Varghese AA, Vijayan GS, Mathew TJ:

Response of equatorial ionosphere to the September 2017 geomagnetic storm: a case study using digisonde observations at Fortaleza 4643

Atomic and Molecular Physics

Borodin VI, Bubenchikov MA, Bubenchikov AM, Ovchinnikov VA: Numerical study of the chiral effect in C₆₀ fullerite 4651

Biophysics

Alqahtani Z, Abbas IA, El-Bary AA, Almuneef A: Analytical solutions of thermomechanical interaction in living tissues under dual phase-lag model 4663

Condensed Matter and Materials Physics

Alekberov R, Mekhtiyeva S, Babayeva R, Fábián M, Mammadov S: Study of Raman scattering in As–Se chalcogenide glasses by applying of partial pair correlation functions 4671

Wang X, Wang X, Jin T, Wu Q, Chai X, Li J, Hu J: A novel strongly yellow-emitting Dy³⁺: NaGdGeO₄ phosphor with excellent thermal stability 4677

Mustafabeyli A, Horodek P, Mirzayev M: Intrinsic defect in CdGa₂S₄: an approach from first principles ____4687

Philemon KT, Korir KK, Musembi RJ, Nyongesa F: Optimizing 2D MoS₂ for removal of anionic heavy metals from water: insights from density functional theory study 4693

Abiyev AS, Huseynov EM, Mirzayev MN, Mauyey B, Samadov SF: Positron annihilation lifetime and doppler broadening spectroscopies studies of defects in nano TiN crystal under gamma irradiation and high temperature 4703

Paul S, Ahmed N, Manokamna , Sen A, Rialach S, Sharma N, Devi S: Synthesis and characterization of La_{1-x}Sr_xTi_{0.80}Fe_{0.20}O₃ (0.10 $\leq x \leq$ 0.40) perovskite material for electrode of solid oxide fuel cell 4711

Prakash T, Navaneethan M, Archana J, Ponnusamy S, Muthamizhchelvan C, Hayakawa Y:

Preparation and characterization of TiO₂ nanostructures by changing the parameters of trichloroaniline concentration, pH and annealing for dye-sensitized solar cell application 4721

Medjadji I, Benkhettou N-E, Hiadsi S, Elchikh M: The impact of Si substitution on Ge sites in full heusler compound Ru₂VGe: stability analysis 4731 Ali H, Mahmood A, Jahangir A, Zia QMZ, Anya Al: Nonlocal theory on plane waves in higher order thermo-porous functionally graded semiconductor 4743

Hasan Z, Ahmmed T, Khan M, Nobin MdNM, Akter MstS, Ali MdL: Electronic, optical and mechanical properties of MAs₂ (M=W, Cr, Mo): a first-principles study 4761

Asfour I:

Electronic, structural, magnetic and thermodynamic properties of the half-metallic ferromagnetic compounds containing chrome and tantalum Cr_2TaZ (Z = Al, Ga and Sb) 4775

Azouaoui A: The mechanical, thermodynamical and electronic properties of NaCdP half-Heusler 4791

General and Interdisciplinary Physics

Haty A, Ray RK:

Impact of an isothermal arc-shaped control plate on flow and heat transfer around an isothermally heated rotating circular cylinder 4801

Moreira ARP, Ahmed F:

Shannon entropy measurements for quantum oscillator system in the presence of a spiral dislocation 4827

Patil J, Shaikh SF, Nakate UT, More PS, Al-Enizi AM, Khollam YB: Effect of tunnelling in double barrier nitride (AlGaN/GaN) heterojunction 4835

Salhi M, Bensedira S, Bengherbia N, Roudane M: Temperature–pressure and thermal-caloric imperfections effects on Gibbs and Helmholtz free energies 4849

Nonlinear Dynamics and Complex Systems

Ahmed KK, Ahmed HM, Rabie WB, Shehab MF: Effect of noise on wave solitons for (3+1)-dimensional nonlinear Schrödinger equation in optical fiber 4863

Nuclear Physics

Abdullah HM, Ahmed AH: An investigation of the (n, ɑ) reaction cross sections using an empirical formula 4883

Optics & Spectroscopy

Shrivastav N, Madan J, Pandey R: Optimizing tandem solar cells efficiency through current matching technique in lead-free perovskite/c-Si and lead-free perovskite/CIGS absorbers 4899

(Contents continued on inside backcover)

