## Indian Journal of Publication of the Indian Association for the Cultivation

for the Cultivation of Science

41

03/02/2027







## **Indian Journal of Physics**

## Volume 97 · Number 10 · September 2023

Astrophysics, Atmospheric and Space Physics

Ntanguen PH, Nzeukou A, Onguene R, Sandjon AT, Sonfack R: Parametrization of drop size distribution with rain rate for microwave and millimeter wave applications in Central Africa 2865

**Atomic and Molecular Physics** 

lkot AN, Okorie US, Okon IB, Ahmadov AI, Edet CO, Oladimeji E, Duque CA, Rampho GJ: Relativistic and non-relativistic thermal properties with bound and scattering states of the Klein-Gordon equation for Mobius square plus generalized Yukawa potentials 2871

SUSY-nonrelativistic quantum eigenspectral energy analysis for squared-type trigonometric potentials through Nikiforov-Uvarov formalism 2889

Comparison of finite element density functional with NWChem results for 18 molecules 2899

**Condensed Matter and Materials Physics** 

Investigation of electrical and magnetic properties of the CuZnAlMn alloy for diode application 2903

Al-Mohammedi W, Sherbiny M, Abdelghany AM, El-Damrawi G:

Structure and crystallization behavior of binary silver tellurite glasses and glass ceramics 2909

Bellahcene N, Dahani A, Djermouni M, Dine K, Cherifi A, Zaoui A: Platinum nitride Pt<sub>4</sub>N compound: first principles investigations 2917

Thombare S, Patil R, Malavekar D, Blomquist N, Olin H, Gavhane K, Meshram J, Lokhande C, Phadatare M:

Effect of electrolytes on the performance of graphene oxide anode material for

ultracapacitor, Li-ion capacitor, and Li-ion battery: three-in-one approach 2927

Wang L, Cao Y, Zhou S: First-principles prediction of electronic, optical, and thermodynamic properties of c-TiAl $_3$  with M doping (M = V, Nb, Ta) 2943

Van Tuan T, Khanh NQ, Van Tai V, Linh DK:
Barrier penetration and screening effects on hole mobility and thermopower in a Si/Si<sub>1-x</sub>Ge<sub>x</sub>/Si finite square quantum well 2961

Eksi D: Electro-static properties of GaAs based two-dimensional bilayer systems 2971

The effect of copper doping on the structural, optical, and electrical properties of cadmium oxide thin films deposited by the spray pyrolysis technique 2977

Mebrek M, Zemouli M, Berber M: First-principles calculations of structural, electronic, elastic, and thermal properties of phase M<sub>2</sub>CdC (M = Sc, V, and Nb) 2991

Bansal A, Sharma GP, Singh R:
Thermal properties of graphene oxide nanofluids 3003

General and Interdisciplinary Physics

Ray A: Radiation effects and hardening of electronic components and systems:

Chakraborty K, Mandal R, Das A, Mandal DK:

A unified realization of the modified Einstein equation approach in organic semiconductors: theoretical interpretation and experimental validation 3033

Evolutionary stages in a noninteger dimensional universe 3041

Hamila R, Jemni A, Perré P: A lattice Boltzmann source formulation for advection and anisotropic diffusion 3047

Nonlinear Dynamics and Complex Systems

Said SM, Abd-Elaziz EM, Othman MIA:

A two-temperature model and fractional order derivative in a rotating thick hollow cylinder with the magnetic field 3057

Propagation of shock waves in a non-ideal gas with dust particles in an interstellar medium 3065

**Nuclear Physics** 

Singh V, Lahiri J, Chowdhury PR, Basu DN:
Sub-barrier fusion hindrance and absence of neutron transfer channels 3081

Faeghinia A, Alizadeh M, Siroosian M:

Effect of CdS on optical properties of ZnO–PbO–SiO<sub>2</sub> glass–ceramic systems 3087

Supercontinuum generation by frequency chirp in photonic crystal fibers 3097

Novel anomalies of soft quasi-localized glassy mode in the vicinity of boson peak

Kumar PN, Nagaraju M, Arjun KV, Razdan AK, Chaudhary AK:
Comparative study of real-time terahertz imaging of concealed metallic objects, drug, wood and TNT explosive in transmission/reflection modes using uncooled microbolometer and ultrafast pulsed terahertz imaging systems 3109

Plasma Physics

Singh AP, Varshney P, Jain A, Gupta DN, Kundu M, Gopal K:
Effect of laser intensity redistribution on terahertz field generation via laser
wakefield in a magnetized plasma 3119

Relativity and Cosmology

Yassin H, Elyazeed ERA, Tawfik AN:

Equations-of-state deduced form different types of black holes 3127

Wang B-Q, Wu S-R:
Thermodynamic properties of the Euler-Heisenberg-AdS black hole under new higher order generalized uncertainty principle 3133

Reissner–Nordstrom black hole and the gravitational waves formation 3143

Babar R, Akhtar Z, Asgher M, Ali R: Study of thermodynamics for Dymnikova regular black hole under the influence of quantum gravity 3155

Further articles can be found at link.springer.com

Indexed/abstracted in Web of Science, SCOPUS, INSPEC, Chemical Abstracts Service (CAS), Google Scholar, Academic OneFile, Indian Science Abstracts, INIS Atomindex, INSPIRE, International Bibliography of Book Reviews (IBR), International Bibliography of Periodical Literature (IBZ), OCLC, SCImago, Summon by Serial Solutions

Instructions for Authors for Indian J Phys are available at www.springer.com/12648

