

Research Publications 2006-2007

1. Structure and collective dynamics of liquid Sodium. V. N. Patel, P. B. Thakor, B. Y. Thakore, P. N. Gajjar & A. R. Jani; Condensed Matter Physics (Ukraine) **9(4)**, 741-746 (2006)
2. Thermodynamic properties of aluminium at high temperatures and pressures using local pseudopotential with mean-field potential approach: a comparative study. N. K. Bhatt, P. R. Vyas, A. R. Jani and V. B. Gohel.; Indian Journal of Physics **80(7)**, 707-717 (2006)
3. Structure of some 4f Rare Earth Liquid Metals –A charged hard sphere approach. P. B. Thakor, P. N. Gajjar and A. R. Jani.; Commun. Theor. Phys. **46**, 337-242 (2006)
4. Electronic transport property of Li-Ga alloys. Manjul Kumar, P. N. Gajjar, B. Y. Thakore & A. R. Jani; Solid State Physics (India) **51**, 713 (2006)
5. Long wavelength limits of the structure factors of some simple liquid metals. P. B. Thakore, V. N. Patel, B. Y. Thakore, P. N. Gajjar and A. R. Jani. Solid State Physics (India) **51**, 375 (2006)
6. High pressure P-V relation and Gruneisen parameter for elemental strontium. P. R. Vyas, V. B. Gohel, N. K. Bhatt and A. R. Jani.; Indian Journal of Pure & Applied Physics **45**, 82 (2007)
7. PEC behaviour of mixed single crystals of tungsten sulphoselenide grown by a CVT technique. D.N. Gujarathi, G.K. Solanki, M.P. Deshpande, & M.K. Agarwal; Solar Energy Materials & Solar cells **90** (2006) 2630-2639
8. Growth and structural studies of zirconium trisulphide single crystals. K.R. Patel, J.H. Prajapati, Rajiv Vaidya, Mehul Dave and S. G. Patel; Indian Journal of Physics
9. Performance Evaluation of MoSe₂ PEC solar cells. Deepa Makhija, R.J. Pathak, K.D.Patel, V.M.Pathak and R.Srivastava,; Prajna-Journal of Pure and Applied Sciences, 14, (2006) 104-107.
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11. Infrared spectroscopy of the iodine inclusion compounds of three (a, b and g) cyclodextrins. Mukesh Patel, Mehul Dave, K. R. Patel, S. G. Patel and A. T. Oza; Prajna-J. Pure & App. Sciences, 14, 117-128, 2006

12. Infrared spectra of some ternary CT complexes based on benzidine as donor. Ashok Patel, Parimal Trivedi and A. T. Oza; *Ind. J. Phys. (Calcutta, India), Ind. J. Phys. Vol. 80*, pp. 1201-1207, 2006.
13. Theoretical calculations of the total and ionization cross sections for electron impact on some simple bio-molecules. Minaxi Vinodkumar, K.N. Joshipura, Chetan Limbachiya and Nigel Mason, *Phys. Rev. A 74*, 022721 (2006)-USA
14. Electron scattering and ionization of NO, N₂O, NO₂, NO₃ and N₂O₅ molecules-theoretical cross sections". K. N. Joshipura, Sumona Gangopadhyay and B. G. Vaishnav, *J.Physics B 40*, 199 (2007) UK
15. Electron impact ionization cross sections of plasma relevant and astrophysical silicon compounds: SiH₄, Si₂H₆, Si(CH₃)₄, SiO, SiO₂, SiN and SiS". K. N. Joshipura, B. G. Vaishnav and Sumona Gangopadhyay, *Int. J. Mass Spectrom 261* 146 (2007) UK
16. Variable phase calculations on e-H₂ and e-CO scattering processes. Sumona Gangopadhyay, P. C. Vinodkumar and K. N. Joshipura; *Prajna- SPU Journal of pure and applied sciences 14*, 108, 2006
17. Modelling electron interactions: A semi-rigorous method. M. Vinodkumar, K. N. Joshipura and N. J. Mason; *Acta Physica slovac 56*, 521(2006)- Bratislava, Slovak Republic
18. Properties of Bc meson in a variational scheme. Ajay K. Rai and P C Vinodkumar; *Pramana J Phys. Vol. 66*(2006)953-958.
19. Low lying hadronic states in relativistic harmonic model. Ajaykumar Rai, J N Pandya, P C Vinodkumar; *Ind.J.Phys.80* (2006)387-392
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21. Decay rates of quarkonia in the NRQCD formalism. J N Pandya, Ajaykumar Rai, P C Vinodkumar; *ArXiv : hep-ph/0701026v1*, Jan 2007.
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23. Charmed and Beauty Baryon in hyper Central Model. Bhavin Patel, Ajaykumar Rai, P C Vinodkumar; *Proc.DAE-BRNS Symp. on Nucl. Phys. Vol. 51*(2006)509- 510.
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