

CV, NAVEEN K. SINGH

Employer- Sir P T Sarvajanik College of Science,
Surat

Designation: Adhyapak Sahayak (Asst. Professor)
Email: naveen.nkumars@gmail.com,
Phone: +91-8826685960,

Gender: Male,
Nationality: Indian

Present Address:
Physics Department,
PT Sarvajanik College of Science,
MTB campus, Athwalines, Surat,
Pincode-395001, Gujarat, India

Research interests

Broad area of research:

Theoretical Cosmology, General Relativity and Field Theory.

Topics of Research:

Perturbation Analysis, CMBR, Inflationary models of the universe, Theories for Dark energy and Dark matter of universe, Scale invariance and its applications to cosmology, Cosmological constant problem, beyond standard model of particle physics and Modified Theory of Gravity, Anti-Evaporation in black hole.

Education

- Ph.D(2005-12) **Thesis title:** Scale invariance and its implications in cosmology
Department of Physics, IIT Kanpur, India.
- M.Sc.(2001-03) Physics, (first division)
VBS Purvanchal University , India
- B.Sc.(1998-01) Physics, Chemistry, Maths, (first division),
VBS Purvanchal University, India
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Software Skills

Software skills: Latex, Matlab and Mathematica, CosmoMC, CAMB.

Programming Languages: Python (Certificate courses)

Experiences:

I have teaching and research experience spanning about 10 years. I have worked at various institutes/universities. Those are PRL ahmedabad, SNUST South Korea, Centre for Theoretical Physic, JMI, New Delhi, NIT Jalandhar and Department of Astronomy, School of Physics and Astronomy, Sun Yat-sen University, China. I am working at P T Sarvajanik College of Science as Adhyapak Sahayak (Assistant Professor) since June, 2022.

Publications [Published - 24]

1. **Cosmological Implications of a Scale Invariant Standard Model,**
Pankaj Jain, Subhadip Mitra, *Naveen K. Singh*
Journal-ref: JCAP 0803:011,2008
2. **Dark Energy and Dark Matter in General Relativity with local scale invariance,**
Pavan Kumar Aluri, Pankaj Jain, *Naveen K. Singh*
Journal-ref: Mod.Phys.Lett.A24:1583-1595,2009

3. **Constraints on the Cosmological Constant due to Scale Invariance,**
Pavan K. Aluri, Pankaj Jain, Subhadip Mitra, Sukanta Panda, *Naveen K. Singh*
Journal-ref: Mod. Phys. Lett. A, Vol. 25, (2010) pp. 1349-1364
4. **Quantum Treatment of Weyl Meson,**
Naveen K. Singh , Pankaj Jain, Subhadip Mitra, Sukanta Panda.
Phys. Rev. D 84, 105037 (2011) [arXiv:1106.1956]
5. **Cosmological Perturbation Analysis in a Scale Invariant Model of Gravity,**
Pankaj Jain, Purnendu Karmakar, Subhadip Mitra, Sukanta Panda, *Naveen K. Singh*
Class. Quantum Grav. 28 (2011) 215010 (9pp) [arXiv:1105.4929]
6. **Thermodynamic properties of a magnetically modulated graphene**
SK Firoz Islam, *Naveen K. Singh*, Tarun Kanti Ghosh
J. Phys.: Condens. Matter 23 (2011) 445502 [arXiv:1107.3060v1]
7. **Testing Unimodular Gravity,**
Pankaj Jain, Purnendu Karmakar, Subhadip Mitra, Sukanta Panda, *Naveen K. Singh*
- JCAP 1205 (2012) 020, [arXiv:1108.1856]
8. **Cosmological Implications of Unimodular Gravity,**
Pankaj Jain, Atul Jaiswal, Purnendu Karmakar, Gopal Kashyap and *Naveen K. Singh*
JCAP11(2012)003 [arXiv:1109.0169]
9. **Unimodular Constraint on global scale Invariance,**
Naveen K. Singh
Mod. Phys. Lett. A28, (2013) 1350130 [arXiv:1205.5151].
10. **Higgs Inflation in $f(\Phi, R)$ Theory,**
Girish Chakravarty, Subhendra Mohanty and *Naveen K. Singh*
Int.J.Mod.Phys. D23 (2014) 1450029 [arXiv:1303.3870].
11. **Tensor-to-Scalar Ratio in Eddington-inspired Born-Infeld Inflation,**
Inyong Cho, *Naveen K. Singh*
Eur.Phys.J. C74 (2014) 11, 3155, arXiv:1408.2652.
12. **Unimodular Theory of Gravity and Inflation.**
Inyong Cho, *Naveen K. Singh*
Class. Quantum Grav. 32 (2015) 135020, arXiv:1412.6205.
13. **Scalar Perturbation Produced at the Pre-inflationary Stage in Eddington-inspired Born-Infeld Gravity.**
Inyong Cho, *Naveen K. Singh*
Eur.Phys.J. C75 (2015) 6, 240, arXiv:1412.6344.
14. **Primordial Power Spectra of EiBI Inflation in Strong Gravity Limit .**
Inyong Cho, *Naveen K. Singh*
Phys.Rev. D92 (2015) 2, 024038, arXiv:1506.02213
15. **Reissner Nordstrom Metric in Unimodular Theory of Gravity,**
Pankaj Chaturvedi, Naveen K Singh, Dharm Veer Singh. (Int. J. Mod. Phys. D 26, 1750082 (2017)) arXiv:1610.07661
16. **Quintessential Inflation in a Thawing Realization,**
Abhineet Agarwal, R. Myrzakulov, M. Sami, Naveen K. Singh
(Phys. Lett. B 770 (2017) 200-208

17. **Anti-Evaporation of Bardeen de-Sitter Black Holes,**
Dharm Veer Singh, Naveen K Singh, *Annals of Phys.*, 383,(2017), Pages 600-609, arXiv:1704.01831
 18. **Local Scale Invariance and Inflation,**
Naveen K Singh, Sukanta Panda, *JPP*, Vol. 2, No. 3, 2018 , arXiv:1605.02543.
 19. **Anti-evaporation and evaporation of an n -dimensional Reissner-Nordstrom black hole,**
YuHong Fang, Zhiqi Huang, HaiTao Miao, Naveen K. Singh , *Phys.Rev. D*99 (2019) no.4, 044011.
 20. **Weak Lensing Effect on CMB in the Presence of a Dipole Anisotropy,**
Abhineet Agarwal, Naveen K. Singh, Pankaj Jain, Prabhakar Tiwari, *Eur.Phys.J. C*79 (2019) no.7, 582, e-Print: arXiv:1901.08595 [astro-ph.CO]
 21. **Can Non-standard Recombination Resolve the Hubble Tension?,**
Miaoxin Liu, Zhiqi Huang, Xiaolin Luo, Haitao Miao, Naveen K. Singh et al., *Sci.China Phys.Mech.Astron.* 63 (2020) 9, 290405
 22. **Varying Λ Theory Revisited,**
YuHong Fang, Naveen K. Singh, *Grav.Cosmol.* 27 (2021) 47-53.
 23. **Dipole Anisotropy in Gravitational Wave Source Distribution,**
Gopal Kashyap, Naveen K. Singh, Khun Sang Phukon, Sarah Caudill, Pankaj Jain, *JCAP* 06 (2023) 042, 2204.07472
 24. **Unimodular Theory of Gravity in Light of the Latest Cosmological Data,**
Naveen K. Singh, Gopal Kashyap, *Universe* 2023, 9(11), 469, 2306.17754
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Scholarship, Medals, Other Academic Distinctions

1. Qualified CSIR-UGC-NET-JRF -2004
2. Qualified GATE-2004
3. Qualified JEST-2004