




भारत सरकार / Government of India
परमाणु ऊर्जा विभाग / Department of Atomic Energy
होमी भाभा राष्ट्रीय संस्थान / Homi Bhabha National Institute
राजा रामन्ना प्रगत प्रौद्योगिकी केन्द्र
Raja Ramanna Centre for Advanced Technology



HBNI Faculty Profile

Name	<i>Prof. Satya Ram Mishra</i>	
Designation	<i>Professor , Dean Academic (HBNI RRCAT)</i>	
Research Area	<i>Lasers, Nonlinear optics, Laser atom cooling, Bose-Einstein Condensation, atom-optics and quantum sensors.</i>	
Research Profile	<p><i>Dr S R Mishra has worked in the following areas:</i></p> <ul style="list-style-type: none"><i>-Development of lasers (Solid state lasers, Dye Lasers).</i><i>-Nonlinear optics (fullerenes and other organic materials).</i><i>-Laser beams properties (Gaussian, hollow, Bessel beams).</i> <p><i>Dr S R Mishra is presently working in the following areas:</i></p> <p><i>Laser atom cooling, traps for neutral atoms, Bose-Einstein condensation, atom-chips, cold atoms as quantum sensors (cold atom gravimeter, cold atom pressure sensors), cold atoms for quantum information (upcoming area).</i></p>	
Ten Selected Recent Publications		
1.	“Development and characterization of atom chip for magnetic trapping of atoms”, V. Singh, V. B. Tiwari, A. Chaudhary, R. Shukla, C. Mukharjee, S. R. Mishra . <i>J. Appl. Phys.</i> , 133 , 084402, (2023).	
2.	“A method for loading magneto-optical trap in an ultrahigh vacuum environment”, Kavish Bhardwaj, Sourabh Sarkar, S. P. Ram, V. B. Tiwari, and S. R. Mishra . <i>AIP Advances</i> , 13 , 015108, (2023).	
3.	“Efficient quantum state preparation using Stern–Gerlach effect on cold atoms”, V. Singh, V. B. Tiwari, S.R. Mishra , <i>Meas. Sci. Tech.</i> , 33 , 095019, (2022).	
4.	“Different atom trapping geometries with time averaged adiabatic potentials” S. Sarkar, S. P. Ram, V. B. Tiwari, S. R. Mishra , <i>Eur. Phys. J. D</i> , 75 , 281, (2021).	
5.	“Polarization enhanced tunable Doppler-free dichroic lock technique for laser frequency locking”, V. Singh, V. B. Tiwari, S.R. Mishra , <i>J. Opt. Soc. Am B</i> , 38 , 249, (2021).	



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6.	"A single laser operated magneto-optical trap for Rb atomic fountain" S. Singh, B. Jain, S. P. Ram, V. B. Tiwari, S. R. Mishra, Pramana - J. Phys., 95, 67, (2021).
7.	"Absorption imaging of trapped atoms in presence of AC-Stark shift", Kavish Bhardwaj, S P Ram, S Singh, V B Tiwari and S R Mishra, Phys. Scr. 96, 015405 (2021).
8.	"On the continuous loading of a U-magneto-optical trap (U-MOT) on an atom-chip in ultra high vacuum", Vivek Singh, V. B. Tiwari and S. R. Mishra, Laser Phys. Lett. 17, 035501 (2020).
9.	"Spectral characteristics of a modified inverted-Y system beyond rotating wave approximation" Charu Mishra, A. Chakraborty and S. R. Mishra, J. Phys. B: At. Mol. Opt. Phys. 52, 095002(2019).
10.	"Resonance enhancement of two photon absorption by magnetically trapped atoms in strong rf-fields", A. Chakraborty and S. R. Mishra, Phys Lett, A 382 (4), 157 (2018).