




भारतसरकार/Government of India
परमाणुऊर्जाविभाग / Department of Atomic Energy
होमी भाभा राष्ट्रीय संस्थान/ Homi Bhabha National Institute
राजारामन्नाप्रगतप्रौद्योगिकीकेन्द्र
Raja Ramanna Centre for Advanced Technology



HBNI Faculty Profile

Name	<i>Uday Chakravarty</i>	
Designation	<i>Assistant Professor</i>	
Research Area	<i>Photonics Nanomaterial Fabrication, Laser Matter interaction, Analytical modelling of opto-thermal processes, Plasmonics, Application Oriented Novel Solar thermal responsive Material Research</i>	
Research Profile	<i>Dr. Uday Chakravarty did his M.Sc. from J.N.U. New Delhi in 2003 and Ph.D. from H.B.N.I in Physical Sciences in 2014. He is working at R.R.C.A.T. Indore as Scientific Officer F in Photonics nano-materials Lab and appointed as Assistant Professor in H.B.N.I. His research interests include laser matter interaction studies, Solar energy utilization, Green energy research, Plasmonics, Photonics, Opto-thermal and Thermo-plasmonic studies in experimental and analytical modelling domain. He has 14 years of teaching experience in BARC Training School at RRCAT. He is recipient of BUTI Young Scientist award given by the Buti foundation, Plasma Science Society of India.</i>	
Ten Selected Recent Publications		
1.	Nano-ripple formation on different band-gap semiconductor surfaces using femtosecond pulses, U Chakravarty, RA Ganeev, PA Naik, JA Chakera, M Babu, PD Gupta, Journal of Applied Physics 109 (8), 084347 (2011)	
2.	Harmonic generation from indium-rich plasmas, RA Ganeev, H Singhal, PA Naik, V Arora, U Chakravarty, JA Chakera, ..., Physical Review A 74 (6), 063824 (2006)	
3.	Formation of metal nanoparticles of various sizes in plasma plumes produced by Ti: sapphire laser pulses, U Chakravarty, PA Naik, C Mukherjee, SR Kumbhare, PD Gupta, Journal of Applied Physics 108 (5), 053107 (2010)	
4.	X-ray enhancement in a nanohole target irradiated by intense ultrashort laser pulses, U Chakravarty, V Arora, JA Chakera, PA Naik, H Srivastava, P Tiwari, ...	



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	Journal of Applied Physics 109 (5), 053301 (2011)
5.	Enhancement of K_{α} emission through efficient hot electron generation in carbon nanotubes on intense laser pulse irradiation, U Chakravarty, V Arora, PA Naik, JA Chakera, H Srivastava, A Srivastava, ..., Journal of Applied Physics 112 (5), 053301 (2012)
6.	Predictive analysis of COVID-19 eradication with vaccination in India, Brazil, and USA, D Chaturvedi, U Chakravarty, Infection, Genetics and Evolution 92, 104834 (2021)
7.	Estimation of electron density and temperature of semiconductor surfaces excited by ultra-short laser pulses, U Chakravarty, PA Naik, JA Chakera, A Upadhyay, PD Gupta, Applied Physics A 115, 1457-1467 (2014)
8.	Nonlinear absorption of ultrashort ultrahigh intensity laser pulses in fullerene U Chakravarty, D Chaturvedi, AIP Advances 8 (12), 125016 (2018)
9.	Enhancement of conversion efficiency and spatial coherence of high order harmonics generated from pre-formed plasma plumes using an apertured laser beam, M Kumar, U Chakravarty, R Rathore, JA Chakera, PA Naik, PD Gupta, Journal of Physics B: Atomic, Molecular and Optical Physics 49 (7), 075601 (2016)
10.	Enhanced water window x-ray emission from <i>in situ</i> formed carbon clusters irradiated by intense ultra-short laser pulses, U Chakravarty, BS Rao, V Arora, A Upadhyay, H Singhal, PA Naik, ..., Applied Physics Letters 103 (5), 054107 (2013)