

Profile Page



Name	:	Dr Abhinav Pratap Singh
Designation	:	Associate Professor
Department	:	Physics
Qualification	:	PhD Physics (Inter University Accelerator Centre, New Delhi) MSc Physics (MJP Rohilkhand University) BSc Physics, Maths, Chemistry (MJP Rohilkhand University)
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Research Interests :

Thin films, magnetic semiconductors, correlated electron materials.

Other Profile Links :

Google Scholar Link :

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Journal Publications :

Year	Journal	Publication
2022	Radiation Physics and Chemistry, 191, 109863	Harpreet Singh, Palwinder Singh, Fouran Singh, Abhinav Pratap Singh, Akshay Kumar and AnupThakur, "Swift heavy ion irradiation induced microstructural transformation in selenium thin films"
2022	Nuclear Inst. and Methods in Physics Research B, 519, 22-27	Y. Kumar, R. Kumar, K. Asokan, Ramcharan Meena, R. J. Choudhary and A. P. Singh, "120 MeV Ag9+ induced modifications in the structural, electrical and optical properties of La-doped SrSnO ₃ thin films"
2021	Journal of Materials Science: Materials in Electronics, 32, 11835	Yogesh Kumar, Ravi Kumar, K Asokan, R J Choudhary, D M Phase and Abhinav Pratap Singh, "High mobility transparent and conducting oxide films of La-doped SrSnO ₃ "
2021	Journal of Applied Physics, 129, 163902	Yogesh Kumar, Harsh Bhatt, C. L. Prajapat, A.P. Singh, Fouran Singh, C. J. Kinane, S. Langridge, S. Basu, and Surendra Singh, "Suppression of the superconducting proximity effect in ferromagnetic superconducting oxide heterostructures with ion-irradiation"
2021	Journal of Bio and Tribology Corrosion, 7, 123	Kamleshwar Kumar, Shailendra Singh Bhaduria & Abhinav Pratap Singh, "Effect of strain loading on stress corrosion cracking susceptibility of 316L stainless steel in boiling MgCl ₂ solution"

2021	Radiation Effects and Defects in Solids, 176, 896	Neetu Kanda, Anup Thakur, Fouran Singh & Abhinav Pratap Singh, "Radiation hardness of Ge2Sb2Te5 thin films to 80 MeV Si ion irradiation"
2021	Superlattices and Microstructures, 158, 107028	Y.Kumar, R.Kumar, K.Asokan, R.Meena, R.J.Choudhary and A.P.Singh, "Transport properties of perovskite-based stannate thin films of La-doped SrSnO ₃ "
2021	Material Science and Engineering Technology, 52, 1201	Kamleshwar Kumar, Shailendra Singh Bhaduria & Abhinav Pratap Singh, "Mitigation of chloride driven stress corrosion cracking susceptibility of 316L austenitic stainless steel using plasma sprayed TiO ₂ coating"
2020	Nuclear Inst. and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, 467, 40	Neetu Kanda, Anup Thakur, Fouran Singh, A.P.Singh, "Effect of ion irradiation on the optical properties of Ag-doped Ge2Sb2Te5 (GST) thin films"
2020	Ceramics International, 46, 17569	Yogesh Kumar, Ravi Kumar, R.J.Choudhary, Anup Thakur and A.P.Singh, "Reduction in the tilting of oxygen octahedron and its effect on bandgap with La doping in SrSnO ₃ "
2019	Heliyon, 5, e02933	Harpreet Singh, Palwinder Singh, Randhir Singh, Jeewan Sharma, A.P. Singh, Akshay Kumar, Anup Thakur, "Composition dependent structural phase transition and optical band gap tuning in InSe thin films"
2019	Journal of Materials Science: Materials in Electronics, 30, 3604	Palwinder Singh, A. P. Singh, Anup Thakur, "Thermal stability improvement and crystallization behavior of Ag doped Ge2Sb2Te5 phase change materials"
2018	Physical Review Applied, 10, 054070	Palwinder Singh, A.P. Singh, Jeewan Sharma, Akshay Kumar, Monu Mishra, Govind Gupta, and Anup Thakur, "Reduction of Rocksalt Phase in Ag -Doped Ge2Sb2Te5 : A Potential Material for Reversible Near-Infrared Window"
2017	Appl. Phys. Lett., 111, 261102	Palwinder Singh, A.P. Singh, Neetu Kanda, Monu Mishra, Govind Gupta, and Anup Thakur, "High transmittance contrast in amorphous to hexagonal phase of Ge2Sb2Te5: Reversible NIR-window"
2016	Thin Solid Films, 619, 144-147.	Yogesh Kumar, Abhinav Pratap Singh, S.K. Sharma, R.J. Choudhary, P. Thakur, M. Knobel, N.B. Brookes, Ravi Kumar, "Ni 3d -- O 2p hybridization dependent magnetic properties of LaNiO ₃ thin films"
2013	J. Magn. Mag. Mater., 328, 58-61.	A.P. Singh, B.-G. Park, Ik-Jae Lee, Kyu Joon Lee, Myung-Hwa Jung, Jinhee Kim , J.-Y. Kim, "Hole mediated ferromagnetism in Cu-doped ZnO thin films on GaAs substrate"
2013	Materials Chemistry and Physics, 140, 130-134.	S. Gautam, P. Thakur, P. Bazylewski, R. Bauer, A.P. Singh, J.Y. Kim, M. Subramanian, R. Jayavel, K. Asokan, K.H. Chae, G.S. Chang, "Spectroscopic study of Zn1?xCoxO thin films showing intrinsic ferromagnetism"
2013	Phys. Rev. Lett. 111, 217001	Y. K. Kim, W. S. Jung, G. R. Han, K.Y. Choi, C.C. Chen, T. P. Devereaux, A. Chainani, J. Miyawaki, Y. Takata, Y. Tanaka, M. Oura, S. Shin, A. P. Singh, H. G. Lee, J.Y. Kim, and C. Kim, "Existence of Orbital Order and its Fluctuation in Superconducting Single Crystals"
2012	Appl. Phys. Lett., 101, 112103.	Yogesh Kumar, Abhinav Pratap Singh, Surender Kumar Sharma, Ram Janay Chaudhary, Pardeep Kumar Thakur, Marcelo Knobel, Nick B. Brookes and Ravi Kumar, "Irradiation induced modification in transport properties of LaNiO ₃ thin films: An x-ray absorption study"
2012	J. Korean Physical Society, 61, 1609 - 1614.	H. Thakur, K. K. Sharma, Ravi Kumar, P. Thakur, Y. Kumar, A. P. Singh, S. Gautam and K. H. Chae, "On the Optical Properties of Ag+15 Ion-beam-irradiated TiO ₂ and SnO ₂ Thin Films"

2011	J. Phys. Chem. C, 116, 722.	Han-Koo Lee, Ilyou Kim, Hyeong-Do Kim, Byeong-Gyu Park, Hyun-Joon Shin, Ik-Jae Lee, A. P. Singh, Anup Thakur, and J.-Y. Kim, "Selective Reactions and Adsorption structure of pyrazine on Si(100): HRPES and NEXAFS study"
2011	Appl. Phys. Lett., 98, 192512.	Hardeep Thakur, P. Thakur, Ravi Kumar, N. B. Brookes, K. K. Sharma, A. P. Singh, Y. Kumar, S. Gautam and K. H. Chae, "Irradiation induced ferromagnetism at room temperature in TiO ₂ thin films: x-ray magnetic circular dichroism characterizations"
2011	Adv. Sci. Lett., 4, 1	Aditya Sharma, K. D. Verma, Mayora Varshney, A. P. Singh, Yogesh Kumar, Suboth Srivastava, Y. K. Vijay, K. Asokan, R. J. Choudhary and Ravi Kumar, "Growth of nanopillars in SnO ₂ thin films by ion irradiation and its gas sensing properties"
2011	J. Appl. Phys., 110, 083718	Hardeep Thakur, Ravi Kumar, P. Thakur, N. B. Brookes, K. K. Sharma, A. P. Singh, Yogesh Kumar, S. Gautam and K. Chae, "Modifications in structural and electronic properties of TiO ₂ thin films using swift heavy ion irradiation"
2011	Chem. Phys. Lett., 511, 322	Hardeep Thakur, Ravi Kumar, P. Thakur, N. B. Brookes, K. K. Sharma, A. P. Singh, Yogesh Kumar, S. Gautam and K.H. Chae, "Orbital anisotropy in SnO ₂ thin films and its modification by swift heavy ion irradiation"
2011	AIP Conference Proceedings, 1349, 697	Yogesh Kumar, A. P. Singh, P. Thakur and Ravi Kumar, "X-ray Absorption Study of Epitaxial LaNiO ₃ Thin Films"
2010	J. Appl. Phys., 107, 093918	Aditya Sharma, A. P. Singh, P. Thakur, N. B. Brookes, Shalendra Kumar, Chan Gyu Lee, R. J. Choudhary, K. D. Verma and Ravi Kumar, "Structural, electronic, and magnetic properties of Co doped SnO ₂ nanoparticles"
2010	J. Appl. Phys., 108, 083706	Yogesh Kumar, R. J. Choudhary, A. P. Singh, G. Anjum, Ravi Kumar, "Evidence of quantum correction to conductivity in strained epitaxial LaNiO ₃ films"
2010	Physica B, 405, 2581	K. D. Sung, Ravi Kumar, A. P. Singh, C. S. Kim, K. J. Yee, J. H. Jung, "Photoluminescence of high energy Ar+-irradiated SrTiO ₃ single crystal"
2009	J. Phys.: Condens. Matter, 21, 185005	A. P. Singh, Ravi Kumar, P. Thakur, N. B. Brookes, K. H. Chae and W. K. Choi, "NEXAFS and XMCD studies of single-phase Co doped ZnO thin films"
2009	J. Appl. Phys., 105, 083707	Huang-Chin Chen, Umesh Palnitkar, Way-Faung Pong, I-Nan Lin, A. P. Singh and Ravi Kumar, "Enhancement in electron field emission in ultrananocrystalline and microcrystalline diamond films upon 100 MeV silver ion irradiation"
2009	Diamond & Related Materials, 18, 164	Huang-Chin Chen, Umesh Palnitkar, Balakrishnan Sundaravel, I-Nan Lin, A. P. Singh, Ravi Kumar Ranade, "Enhancement of field emission properties in nanocrystalline diamond films upon 100 MeV silver ion irradiation"
2008	J. Phys. D: Appl. Phys., 41, 155002	Ravi Kumar, A. P. Singh, P. Thakur, K. H. Chae, W. K. Choi, Basavaraj Angadi, S. D. Kaushik and S. Patnaik, "Ferromagnetism and metal-semiconducting transition in Fe-doped ZnO thin films"

Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
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PI	Research	Study of evolution of ZnSnO ₃ phase in pure and doped Zinc stannate thin films with swift heavy ion irradiation	IUAC	31/07/18	30/08/21		Ongoing	
PI	Research	Electrical and optical properties of Zinc and Strontium Stannate thin films	UGC-DAE Consortium for Scientific Research	31/03/18	30/03/21		Complete	

Events Organized :

Category	Type	Title	Venue	From	To	Designation
Short term course	National	Dielectric, Harmonic Oscillators and their Applications	Dr B R Ambedkar National Institute of Technology, Jalandhar	24-02-2014	28-02-2014	Coordinator
Seminar	National	Use of Technology and Innovations in promoting Good Governance	Dr B R Ambedkar National Institute of Technology, Jalandhar	23-12-2014	23-12-2014	Coordinator
Conference	National	19th National Conference on Solid State Nuclear Track Detectors and Their Applications (SSNTDs-19)	Dr B R Ambedkar National Institute of Technology, Jalandhar	19-11-2015	21-11-2015	Member of organizing committee
Short term course	National	Recent advances in Nanostructure Materials	Dr B R Ambedkar National Institute of Technology, Jalandhar	19-09-2016	23-09-2016	Coordinator
STC	National	Advanced Functional Materials	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar	30-12-19	03-01-20	Coordinator
Workshop	National	Use of LaTeX in typesetting technical documents	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar	31-08-20	04-09-20	Convener
STC	National	Advanced Energy Materials	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar	12-10-20	16-10-20	Coordinator

International symposium	International	International Symposium on Semiconductor Materials and Devices	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar	31-10-20	02-11-20	Secretary
Workshop	National	LaTeX for beginners	NIT, Jalandhar	04-01-2023	08-01-2023	Coordinator

PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Mr. Yogesh Kumar	Electrical and optical properties of zinc and strontium stannate thin films	Awarded	2023	
Kamleshwar Kumar	Stress Corrosion Cracking of 316L Austenitic Stainless Steel with multilayer TiO ₂ Coating	Awarded	2022	Dr S S Bhaduria
Neha Chauhan	Structural evolution of zinc stannate films with swift heavy ion irradiation	On going	2020	
Bharpur Singh	Investigation of correlated metal thin films as transparent conducting oxides	On going	2019	
Bheem Khan	Swift heavy ion induced modification in structural, electrical and optical properties of chalcogenide thin films	On going	2019	Dr Anup Thakur
Ms. Neetu Kanda	Influence of swift heavy ion irradiation and implantation on the structural, electrical and optical properties of Ge-Sb-Te thin films	Submitted		Dr Anup Thakur
Chetan Kumar Saini	To be decided	Ongoing		

Admin. Responsibilities :

Position Held	Organization	From	To
Hostel warden	Dr B R Ambedkar National Institute of Technology, Jalandhar	2012	2019