



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>Dr. Pooja Gupta</i>	
Designation	<i>Assistant Professor</i>	
Research Area	<i>Soft magnetic alloys and thin films, Synchrotron x-ray diffraction, Magneto optical Kerr effect, Magnetic domains and domain wall dynamics, residual stress measurements</i>	
Research Profile	<i>Our research focus encompasses the investigation of magnetic materials across different dimensions, including bulk and low-dimensional forms. We explore a diverse range of research topics, such as nanomagnetism, spintronics and the correlation between structure and property in engineering materials. By delving into these areas, we aim to gain a deeper understanding of magnetic materials and their behaviour, with the ultimate goal of advancing technology and applications in fields such as data storage, sensing, and energy conversion.</i>	
Ten Selected Recent Publications		
1.	M Jamal, Pooja Gupta , I Sergeev, O Leupold, D Kumar, 2023 , Study of magnetism in MgO/FeCoB/MgO trilayers using x-ray standing wave techniques, Phys. Rev.B 107, 075416.	
2.	N Gupta, D Kumar, M Gupta, V Srihari, RJ Choudhary, SK Rai, Pooja Gupta , 2022 , Role of Nb content in tailoring the microstructure and magnetic anisotropy of soft magnetic W/CoFeB alloy thin films prepared with varying the substrate, temperature, Journal of Alloys and Compounds 910, 164930.	
3.	AS Dev, AK Bera, Pooja Gupta , V Srihari, P Pandit, M Betker, M Schwartzkopf,, 2022 , Oblique angle deposited FeCo multilayered nanocolumnar structure: Magnetic anisotropy and its thermal stability in polycrystalline thin films Applied Surface Science 590, 153056	
4.	Pooja Gupta , PN Rao, MK Swami, A Bhakar, S Lal, SR Garg, CK Garg, 2021 , BL-02: a versatile X-ray scattering and diffraction beamline for engineering applications at Indus-2 synchrotron source, Journal of Synchrotron Radiation 28 (4), 1193-1201	
5.	A Bhakar, Pooja Gupta , PN Rao, MK Swami, P Tiwari, T Ganguli, SK Rai, 2021 , Line profile analysis of synchrotron X-ray diffraction data of iron powder with bimodal microstructural profile parameters, Journal of Applied Crystallography 54 (2), 498-512	



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6.	MS Jamal, Pooja Gupta , D Kumar, 2020 , Preferential alignment of Co moments at oxide/Co interface in Si/Co/Co-oxide/Cowedge/Pt structure, Thin Solid Films 709, 138246
7.	AS Dev, D Kumar, Pooja Gupta , P Vishwakarma, A Gupta, 2020 , Development of residual stress and uniaxial magnetic anisotropy during growth of polycrystalline Co film, Materials Research Bulletin 121, 110616
8.	Pooja Gupta , A K J, S Velaga, S Peter, K Sanjeev, R Sanjay, G Tapas, 2019 , On the origin of magnetic anisotropy of FeCo (Nb) B alloy thin films: A thermal annealing study, Journal of magnetism and magnetic materials 480, 64-72
9.	Pooja Gupta , P Švec, A Sinha, SR Kane, A Pandey, S Rai, T Ganguli, 2018 , Correlation of B2 super-lattice ordering with soft magnetic and mechanical properties of nanocrystalline FeCoNbB HITPERM alloys, Materials Research Express 6, 026537
10.	Pooja Gupta , T Ganguli, P Švec, AK Sinha, A Gupta, P Švec Sr, MN Singh, 2013 , Effect of Co addition on the atomic ordering of FeCo-phase in nanocrystalline Fe _{81-x} Co _x Nb ₇ B ₁₂ alloys (x = 20.25, 27, 40.5, 54, 60.75): An anomalous diffraction and Mossbauer study, Journal of Applied Physics 114 (8), 083516