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phase and hard-LTP. This also validates the usage of Co@C nanoparticles as the soft phase in exchange-spring magnets.

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List of Publications

From the thesis:

1. **Anuraag, N. S.**, S. K. Shaw, Sher Singh Meena, R. K. Singh, and Nand Kishore Prasad. "Spontaneous exchange bias in high energy ball milled MnBi alloys." *Journal of Magnetism and Magnetic Materials* 557 (2022): 169478.
2. **Anuraag, N. S.**, S. K. Shaw, C. Upadhyay, and N. K. Prasad. "Mechanochemical synthesis of MnBi/Fe₃C@C exchange coupled hard magnetic nanocomposites." *Journal of Solid State Chemistry* 329 (2024): 124403.
3. **Anuraag, N. S.**, A. Pavan babu, Deepak Kamble, and N. K. Prasad. "Magnetic properties of hard-soft MnBi/FeNi@C exchange coupled nanostructures via cryo-milling." *Physica B: Condensed Matter* (2024): 416411.
4. **Anuraag, N. S.**, C. Mohapatra, and N. K. Prasad. "Exchange spring magnets of MnBi/Co@C." (To be communicated)

Other publications:

5. **Anuraag, N. S.**, U. Kumar, I. Sinha, and N. K. Prasad. "Nanoparticles of MnFeNiCuBi high entropy alloy catalyst for Fenton and photo-Fenton decomposition of p-nitrophenol". *Inorganic Chemistry Communications* 167 (2024): 112843.
6. Chitrance Kumar, **Anuraag, N. S.**, Anurag Kumar Pandey, Nand Kishore Prasad, and Debashis Khan. "Design, preparation and study of microstructure, phase evolution and thermal stability of Ti-Co_{0.35}-Cr_{0.35}-Nb-Zr nanocrystalline HEA for biomedical applications." *Materials Today Communications* 35 (2023): 105557.
7. Pradhan, Sanjula, **Anuraag, N. S.**, Neha Jatav, Indrajit Sinha, and Nand Kishore Prasad. "Magnetic Ni@C nanoadsorbents for methyl orange removal from

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 9. Shaw, S. K., Puja Kumari, A. Sharma, Neha Jatav, A. Gangwar, **N. S. Anuraag**, P. Rajput et al. "Assessment of ionic site distributions in magnetic high entropy oxide of $(\text{Mn}_{0.2}\text{Fe}_{0.2}\text{Co}_{0.2}\text{Ni}_{0.2}\text{Zr}_{0.2})_3\text{O}_4$ and its catalytic behaviour." *Physica B: Condensed Matter* 652 (2023): 414653.
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 11. Reddy, K. Ramachandra, **N. S. Anuraag**, N. K. Prasad. "Energy-Dispersive X-ray Microanalysis of a Herbal Antimicrobial: Fifatrol." *Asian Journal of Pharmaceutics (AJP)* 17, no. 1 (2023).
 12. Kumar, D., **N. S. Anuraag**, C. Mohapatra, U. Kumar, Debashish Sarkar, M. Vasundhara, I. Sinha, C. Upadhyay, and N. K. Prasad. "r-GO coated magnetic high entropy alloy/oxide nanocomposites as highly efficient Fenton and photo-Fenton catalysts." *Ceramics International* (2024).
 13. Dave, Mehul, Parth V. Shah, **N. S. Anuraag**, N. K. Prasad, Pratik M. Pataniya, and C. K. Sumesh. "Paper based flexible photodetector functionalized by $\text{WS}_2/\text{Ti}_3\text{C}_2\text{T}_x$ 2D-2D heterostructures." *Optical Materials* 150 (2024): 115244.