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## List of Publications

### Publications included in the present thesis:

1. “Pair distribution function study of Ni<sub>2</sub>MnGa magnetic shape memory alloy: Evidence for the precursor state of the premartensite phase”, **Anupam K. Singh**, Sanjay Singh, and D. Pandey, *Phys. Rev. B* **104**, 064110 (2021).
2. “Robust evidence for the stabilization of the premartensite phase in Ni-Mn-In magnetic shape memory alloys by chemical pressure”, **Anupam K. Singh**, Sanjay Singh, B. Dutta, K. K. Dubey, Bobby Joseph, R. Rawat, and D. Pandey, *Phys. Rev. Materials* **5**, 113607 (2021).
3. “Pressure-induced isostructural phase transition in biskyrmion host hexagonal MnNiGa compound”, **Anupam K. Singh**, Parul Devi, Ajit K. Jena, U. Modanwal, S.-Cheol Lee, S. Bhattacharjee, B. Joseph, and Sanjay Singh, *Phys. Status Solidi RRL*, 2200057 (2022).
4. “Intrinsic anomalous Hall conductivity and topological Hall effect in Ni<sub>2</sub>MnGa magnetic shape memory alloy”, **Anupam K. Singh**, Nisha Shahi, G.K. Shukla, and Sanjay Singh (Manuscript to be communicated, 2022).
5. “Behavior of phase transitions and magnetoelastic coupling in biskyrmion host hexagonal NiMnGa”, **Anupam K. Singh**, Nisha Shahi, and Sanjay Singh (Manuscript under preparation, 2022).
6. “Atomic pair distribution function study of NiMnGa compound: Evidence for the local noncentrosymmetric crystal structure”, **Anupam K. Singh**, Sanjay Singh, and D. Pandey (Manuscript under preparation, 2022).

### Publications not included in the present thesis:

1. “High-Pressure Structural Investigation of Anomalous Hall Effect Compound Mn<sub>3</sub>Sn up to 9 GPa”, G. Lingannan\*, **Anupam K. Singh\***, B. Joseph, Sanjay Singh, and S. Arumugam, *Phys. Status Solidi RRL*, 2000605 (2021) (\* **first author contribution equally**).
2. “Temperature dependence of the anomalous Nernst effect in Ni<sub>2</sub>MnGa shape memory alloy”, Avirup De, **Anupam K. Singh**, Sanjay Singh, and Sunil Nair, *Phys. Rev. B* **103**, L020404 (2021).

3. “Anomalous Hall effect from gapped nodal line in the  $\text{Co}_2\text{FeGe}$  Heusler compound”, Gaurav K. Shukla, J. Sau, Nisha Shahi, **Anupam K. Singh**, M. Kumar, and Sanjay Singh, *Phys. Rev. B* **104**, 195108 (2021).
4. “Improved crystallographic compatibility and magnetocaloric reversibility in Pt substituted  $\text{Ni}_2\text{Mn}_{1.4}\text{In}_{0.6}$  magnetic shape memory Heusler alloy”, P. Devi, **Anupam K. Singh**, and Sanjay Singh, *J. of Magn. Magn. Mater.* **507**, 166818 (2020).
5. “Effect of chemical and external hydrostatic pressure on magnetic and magnetocaloric properties of Pt doped  $\text{Ni}_2\text{MnGa}$  shape memory Heusler alloys”, P. Sivaprakash, S. E. Muthu, **Anupam K. Singh**, K.K. Dubey, M. Kannan, S. Muthukumar, S. Guha, M. Kar, S. Singh, and S. Arumugam, *J. of Magn. Magn. Mater.* **514**, 167136 (2020).
6. “Effect of Heat Treatment on the phase purity of  $\text{Fe}_2\text{P}$  Powder”, **Anupam K. Singh**, Vikas Singh, S. Bhattacharjee, Seung-Cheol Lee, Sanjay Singh, and D. Pandey, *AIP Conference Proceedings* **2265**, 030021 (2020).