

## Quantum correlation and phase separation in spin-1/2 Ising-Heisenberg chain model of a heterotrimetallic Fe-Mn-Cu coordination polymer

Molecular magnetic materials that has the potential to be beneficial in a variety of applications, in particular, the development of quantum technologies. One of the most significant quantum resources for quantum technologies is the bipartite quantum correlation. In this presentation, we consider an exactly solvable model such as the spin-1/2 Ising-Heisenberg chain model of a heterotrimetallic Fe-Mn-Cu coordination polymer and discuss the ground state magnetic phase diagram. In addition, we quantify the degree of entanglement between the  $\text{Cu}^{2+}$  and  $\text{Mn}^{2+}$  ions. The impact of the magnetic field and temperature on quantum correlations is also brought out at a critical point. Finally, we portrait the phase diagram of the system from the perspectives of quantum correlation.

### References:

1. O. Rojas, M. Rojas, N.S. Ananikian, S.M. de Souza, *Phys. Rev. A* **86**, 042330 (2012).
2. S. Bhuvaneswari, R. Muthuganesan, R. Radha, *Physica A* **573**, 125932 (2021).
3. H. Arian Zad, M. Rojas, *Physica E* **126**, 114455 (2021).