



Showcasing collaborative research from the groups of Prof. Jayasimha Atulasimha (P. Sutradhar and J. Atulasimha) and Prof. Shiv Khanna (V. Chauhan and S. Khanna), at the Virginia Commonwealth University.

Magnetic behavior of superatomic fullerene assemblies

This work theoretically investigated magnetic behavior in ordered assemblies of magnetic superatomic clusters $\text{Ni}_9\text{Te}_6(\text{PET}_3)_8$ separated by C_{60} that have been recently synthesized by other groups. We examined the magnetic response as the nature of the magnetic superatom, the isotropic and anisotropic interaction strength, the magnetic anisotropy energy, and the assembly size are varied through inclusion of exchange interactions, anisotropy and Dzyaloshinskii–Moriya interaction (DMI) in the model Hamiltonian. It is shown that the inclusion of DMI that causes spin canting is necessary to get a qualitative response.

As featured in:



See Shiv N. Khanna, Jayasimha Atulasimha *et al.*, *Phys. Chem. Chem. Phys.*, 2017, 19, 996.