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Modeling of Charge Transfer Induced Spin Transition in a Linear {FeCoFe} Complex

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The magnetic behavior of the $\{[\text{FeTp}(\text{CN})_3]_2\text{Co}(\text{Meim})_4\} \cdot 6\text{H}_2\text{O}$ compound is examined. Since the observed charge transfer induced spin transition in this compound is accompanied by electronic density redistribution, the theoretical model includes the electron transfer between the Fe and Co ions and two types of cooperative interactions, namely, the electron-deformational and dipole-dipole interactions. It is demonstrated that at low temperatures the spin transformation in the compound under study is accompanied by the appearance of macroscopic polarization. The developed model gives a quite good explanation of the observed effective magnetic moment.