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Effect of Anisotropy in Two-dimensional Dimer model of magnetic ferrofluids[1] ABDALLA OBEIDAT, WESAM AL-SHARO, Jordan University of Science and Technology — The magnetization and the Initial susceptibility have been calculated using statistical mechanics for two-dimensional structured dilute ferro-fluid taking the effect of the magnetic anisotropy and inter-particle interaction. We assumed the assembly consists of N/2 non-interacting systems. Each system is composed of 2 interacting single domain fine magnetic spherical particles. We referred to this model as a Dimer-model. We found that when the easy axis is fixed with respect to the external magnetic field, the ordering temperature depend on the anisotropy constant K in both parallel and perpendicular cases.

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