

Dzyaloshinsky-Moriya Interaction Estimated by AFMR of Kagome Like Substance $\text{Cu}_2\text{O}(\text{SO}_4)$ Observed at 1.8K

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Dolerophanite $\text{Cu}_2\text{O}(\text{SO}_4)$, is one of candidate substances for $S = 1/2$ Kagome like antiferromagnetic spin system. The magnetic susceptibility of powder shows weak ferromagnetic behavior below 15K, and different behavior with zero field cool and field cool. Estimated Weiss temperature $\theta = 187\text{K}$ suggests existence of strong antiferromagnetic interaction between spins. From these results, it is anticipated that $\text{Cu}_2\text{O}(\text{SO}_4)$ has long range ordering below 15K. Existence of Dzyaloshinsky-Moriya (DM) interaction is expected from the crystal structure. To estimate the D term of DM, the multi-frequency ESR measurements have been performed using pulsed magnetic fields up to 16 T in the frequency range from 50 GHz to 315 GHz. Obtained frequency-field diagram at 1.8K shows typical AFMR model with DM interaction. It suggests that the weak ferromagnetism derives from DM interaction. We will report detailed results of ESR measurements and estimated D term of $\text{Cu}_2\text{O}(\text{SO}_4)$