

Low-Temperature Multi-frequency ESR Study of Spin 1/2 Kagome lattice Antiferromagnetic Materials

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S=1/2 kagome lattice antiferromagnet has attracted much attention as a spin liquid system. And several new model substances, such as Herbertsmithite or Volborthite, have been found recently. It is also an interesting system because it is considered to have stronger geometrical frustration than the well-studied triangular lattice antiferromagnet. Moreover, there are still theoretical discussions about the ground state of S=1/2 kagome lattice antiferromagnet whether it is a gapped or gapless spin liquid state. Therefore, ESR studies about the low temperature ground state in the model substance of S=1/2 kagome lattice antiferromagnet are very important. Results of multi-frequency ESR measurements of S=1/2 Kagome lattice antiferromagnetic materials material down to 1.8 K will be discussed.