

Abstract Submitted
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Magnetization ramp of the Kagome lattice antiferromagnet TORU SAKAI, JAEA, SPring-8, HIROKI NAKANO, Graduate School of Material Science, University of Hyogo — Magnetization process of the $S=1/2$ isotropic Heisenberg antiferromagnet on the Kagome lattice is studied. Data from numerical-diagonalization method up to 39-spin systems, are reexamined from the viewpoint of the derivative of the magnetization with respect to the magnetic field. We find that the behavior of the derivative around the $1/3$ height of the magnetization saturation is quite different from the cases of typical magnetization plateaux. The magnetization process of the Kagome-lattice antiferromagnet reveals a new phenomena, which we call the “magnetization ramp.” We also compare it with the $1/3$ magnetization plateau of the triangular antiferromagnet.

[1] H. Nakano and T. Sakai: J. Phys. Soc. Jpn. 79 (2010) 053707, arXiv:1004.2528.

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