

Abstract Submitted  
for the MAR13 Meeting of  
The American Physical Society

**Nematic phase and phase separation near saturation field in frustrated ferromagnets** HIROAKI UEDA, Tokyo Metropolitan University, TSUTOMU MOMOI, Riken — We discuss effects of quantum fluctuations on magnetization process of quantum frustrated ferromagnets. It is found that, on general grounds, in a neighborhood of a ferromagnet/antiferromagnet classical 1st-order phase boundary in zero external field, a phase separation or non-classical phase must appear slightly below the saturation field in a quantum case, if the classical AF is not an eigenstate. Besides, we study the ferromagnetic  $J_1$ - $J_2$   $S = 1/2$  Heisenberg model ( $J_1 < 0$ ) on the bcc lattice from the viewpoint of the magnon Bose-Einstein condensation. For  $-1.50097 \leq J_1/J_2 \leq -1.389$ , the nematic phase is expected and for  $-1.389 \leq J_1/J_2 \leq -0.48$  the phase separation appears under high magnetic field.

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Date submitted: 20 Dec 2012

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