Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Magnetic Susceptibility of a Dirty BEC System $Ni_{0.85}Cd_{0.15}$-4SC$(NH_2)_2$[1] LIANG YIN, JIAN-SHENG XIA, NEIL SULLIVAN, VIVIEN ZAPF, ARMANDO PADUAN-FILHO , RONG YU, TOMMASO ROSCILDE, UNIVERSITY OF FLORIDA TEAM, LANL COLLABORATION, UNIVERIDADE DE SAO PAULO COLLABORATION, RICE UNIVERSITY COLLABORATION, ENSL COLLABORATION — We report measurements of the magnetic susceptibility of a dirty BEC system of magnons: $Ni_{0.85}Cd_{0.15}$-4SC$(NH_2)_2$ (The 15%Cd site-diluted DTN) was studied down to 10 mK. Below 100 mK, the critical fields of BEC H_c do not obey the conventional 3D universality class $H_c(T)$ – $H_c(0) \sim T^{\alpha}$, where $\alpha = 1.5$. The observed scaling relation of $\alpha = 1/1.15$ below 100 mK is in agreement with the numerical simulation of Bose glass for this system.

[1]This research was carried out at the NHMFL High B/T Facility which is supported by NSF Grant DMR 0654118 and by the State of Florida.

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Date submitted: 16 Nov 2009 Electronic form version 1.4