

Abstract Submitted
for the DAMOP10 Meeting of
The American Physical Society

Dynamic Order-Reversal Transition in a Parametrically Driven Cold Atomic System JI-HYOUN KIM, YONGHEE KIM, GEOL MOON, MYOUNG-SUN HEO, WONHO JHE, School of Physics, Seoul National University, Seoul 151-747, Korea, CENTER FOR NANO-LIQUID TEAM — We experimentally demonstrate the reversal transition of the order in a parametrically driven cold atomic system which shows ideal mean-field symmetry-breaking transition, by the application of the pulsed additional bias-field opposite to the pre-existing order. The strength h_0 and the duration Δt of pulse are the control parameters of the reversal transition. We obtain the phase boundary of the transition and there is critical slowing down behavior near the phase boundary via diverging relaxation time.

Ji-Hyoun Kim
School of Physics, Seoul National University, Seoul 151-747, Korea

Date submitted: 26 Feb 2010

Electronic form version 1.4