

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Criticality in Trapped Atomic Systems¹ NIKOLAY PROKOFIEV,
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Amherst, LODE POLLET, Theoretische Physik, ETH Zurich — We discuss generic
limits posed by the trap in atomic systems on the accurate determination of crit-
ical parameters for second-order phase transitions, from which we deduce optimal
protocols to extract them. We show that under current experimental conditions the
in-situ density profiles are barely suitable for an accurate study of critical points in
the strongly correlated regime. Contrary to recent claims, the proper analysis of
time-of-flight images yields critical parameters accurately. L. Pollet, N. Prokof'ev,
and B. Svistunov, Phys. Rev. Lett. 104, 245705 (2010).

¹Swiss National Science Foundation, the National Science Foundation under Grant
PHY-0653183, and a grant from the Army Research Office with funding from the
DARPA OLE program

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Date submitted: 19 Nov 2010

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