Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Towards Bose-Einstein condensation of Erbium atoms KIYOTAKA AIKAWA, ALBERT FRISCH, MICHAEL MARK, ALEXANDER RIETZLER, JOHANNES SCHINDLER, Inst. for Exp. Physics, Univ. Innsbruck, ERIK ZUPANIC, J. Stefan Institute and Inst. for Exp. Physics, Univ. Innsbruck, SIMON BAIER, Inst. for Exp. Physics, Univ. Innsbruck, RUDOLF GRIMM, IQOQI, Austrian Acad. of Sciences and Inst. for Exp. Physics, Univ. Innsbruck, FRANCESCA FERLAINO, Inst. for Exp. Physics, Univ. Innsbruck — Ultracold dipolar gases offer a promising playground for exploring a wide variety of novel quantum phases as well as quantum magnetism. Recent advances in laser cooling technique have opened up a possibility to reach ultracold temperature with highly magnetic rare-earth atoms. Here, we present our results towards Bose-Einstein condensation of Erbium atoms. By using a broad transition at 401 nm for Zeeman slowing and a narrow transition at 583 nm for a magneto-optical trap (MOT), we obtained up to 3×10^8 atoms at a temperature of 15 μK. Typically 1×10^7 atoms are directly loaded from a MOT into an optical dipole trap operating at 1064 nm. The results show that our approach gives a good starting condition for evaporative cooling.

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Date submitted: 26 Jan 2012 Electronic form version 1.4