

Abstract Submitted
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Efficient production of Bose-Einstein Condensates of ^{168}Er ¹ ZIT-ING CHEN, BOJEONG SEO, MINGCHEN HUANG, WEIJUN YUAN, INHO CHOI, PENG CHEN, GYU-BOONG JO, Department of Physics, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China — Recently lanthanide atoms such as dysprosium and erbium have attracted significant attention in quantum simulation with ultracold atoms due to their large magnetic moment and richness of Feshbach resonances. In this poster, we demonstrate the achievement of Bose-Einstein Condensates of ^{168}Er atoms in a new apparatus. Using the technique of two-stage slowing, we operate a narrow-line magneto-optical trap (MOT) with more than 10 times improvement of loading rate, followed by the optical evaporation in a crossed optical dipole trap, and produce BECs every 10 s. The experimental scheme in our apparatus lays a good foundation to conduct experimental studies of supersolidity or interacting topological phase in the future.

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