Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Experimental apparatus for ultracold Rb-K mixture JONGCHUL MUN, SUNG JONG PARK, JIHO NOH, CHANG YONG PARK, WON-KYU LEE, DAI-HYUK YU, KRISS — We describe our experimental apparatus for producing ultracold 87Rb and 40K mixture. Double MOT(Magneto-Optical trap) system consisting of 2-dimensional MOT, and 3-dimensional MOT is employed in our system. The 2-dimensional MOT produces an intense cold atomic beam utilizing a two-color pushing laser beam that could adjust the mean velocity of the atomic beam. The Rb atoms from 2D MOT are collected in the 3D MOT for production of BEC(Bose-Einstein Condensate). After MOT compression and polarization gradient cooling, atoms are captured in the QUIC(Quadrupole Ioffe Configuration) magnetic trap for the rf induced evaporative cooling. Our system produces pure condensates with the atoms number of 10^5 range.

Jongchul Mun
KRISS

Date submitted: 27 Jan 2012 Electronic form version 1.4