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Improving system for achieving ultra cold atoms WANHEE LEE, DAHYUN YUM, JINA PARK, WONHO JHE, Department of Physics and Astronomy, Seoul National University — We are studying on building ultra cold atoms. But we had lots of problems. So we were trying to solve those things. Some are very important and the other seems to minor but huge affects on the system. We change the time control system since each step was so random that makes impossible to analysis some properties by time of flight method (TOF). And the things giving effects to the fields we use were removed. By these processes, we extended the lifetime of atomic cloud in the magnetic trap. After optical pumping to $F=1$ state, we loaded more atoms into the magnetic potential. And we employ the time-averaged orbiting potential (TOP) trap applied by the superposition of a big spherical quadrupole field and a small rotating bias field at 7kHz. In each step, we check the temperature and the density obtained by distribution of trapped atoms. In this poster, I will describe how to modify and show some results.

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