

## **Temperature determination of cold atoms based on single atom detection**

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The temperature of the cold atoms in the magneto-optical trap (MOT) has been determined by either detecting the arrivals of the atoms or the speed distribution of the atoms directly. Using an optical micro-cavity which strongly couples to the single neutral atoms as a single atom detector, we can count the atoms individually and the temperature of the atom in the MOT can thus be determined. Compare to the conventional TOF method, this method provides an independent way to measure the temperature and it has some advantages.

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