

Abstract Submitted  
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**Laser cooling of Iron atoms** THIERRY BASTIN, NICOLAS HUET, STEPHANIE KRINS, Univ de Liege — We report on the first laser cooling of Iron atoms. Our laser cooling setup makes use of 2 UV laser radiation sent colinearly in a 0.8 m Zeeman slower. One laser is meant for optical pumping of the Iron atoms from the ground state to the lowest energy metastable state. The second laser cools down the atoms using a quasi-perfect closed transition from the optical pumped metastable state. The velocity distribution at the exit of the Zeeman slower is obtained from a probe laser crossing the atom beam at an angle of 50 degrees. The fluorescence light is detected using a photomultiplier tube coupled with a boxcar analyzer. The Iron atom beam is produced with a commercial effusion cell working at around 1950 K. Our laser radiations are stabilized using standard saturated-absorption signals in both an Iron hollow cathode absorption cell and an Iodine cell. We will present our experimental setup, as well as the first evidences of cooled down Iron atoms at the exit of the Zeeman slower.

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