

Progress in laser cooling of Tm atoms

P.N. Lebedev Physical Institute of the Russian Academy of Sciences, Moscow, Russia

Cold atoms have many applications in quantum sensors and quantum simulations. Most studies in this field are performed in the so-called cycle mode, where stages of experiment are performed sequentially. Due to the rapid progress in laser systems, fundamentally different schemes with spatial separation and simultaneous execution of experimental stages are now being developed. This approach opens up new areas of research such as optical clocks with continuous interrogation of the clock transition, experiments with matter waves and atomic lasers. In this work we discuss the prospects of a continuous source of cold thulium atoms based on a two-dimensional magneto-optical trap that was developed in our laboratory.

This work was supported by the Russian Science Foundation (Grant No. 21-72-10108).

Author: YAUSHEV, Mikhail (The Lebedev Physical Institute of the Russian Academy of Sciences)

Presenter: YAUSHEV, Mikhail (The Lebedev Physical Institute of the Russian Academy of Sciences)

Session Classification: Poster Session 1