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Light assisted collisions in ultra cold Tm atom ALEXEY AKIMOV, Texas AM University, IVAN COJOCARU, SERGEY PYATCHENKOV, STEPAN SNIGIREV, ILIA LUCHNOKOV, DENIS SUKACHEV, ELENA KALGANOVA, RQC, VADIM SOROKIN, PN Lebedev Physical Institute — Recently laser cooled rare earth elements attracted considerable attention due to the high orbital and magnetic moments. Such a systems allow low-field Feshbach resonances enabling tunable in wide range interactions. In particular, thulium atom has one hole in 4f shell therefore having orbital moment of 3 in the ground state, magnetic moment of 4 Bohr magnetons in ground state. While magnetic moment of the thulium atom is less than that of Erbium or Dysprosium simpler level structure, possibility to capture thulium atoms and the dipole trap at 532 nm make thulium atom an extremely attractive subject for quantum simulations. Nevertheless collisional properties of thulium atom are not yet explored in details, in particular light assisted collision of thulium atom were not yet investigated. In this contribution, we performed studies of light assisted collisions near in Magneto optical trap operating on narrow 530.7 nm transition. We found, that light assisted inelastic binary collisions losses rate is around $\beta \sim 10^{-9} \text{cm}^3/\text{s}$. Possible mechanism of losses from the trap are discussed

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